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Vestiges of Three Royal Lines of Kanyakubja, or Kanauj; with Indications of its Literature.—By FITZ-EDWARD HALL, Esquire, D. C. L. Oxon.

By no means alone among Indian cities of old renown, Kanauj has shrunk from the once proud position of a metropolis into a town whose extent and importance are now most inconsiderable. If the entire site of its ruins was ever peopled simultaneously, its habitancy may at one time have competed with that of London; and yet our knowledge of its political vicissitudes, and even of its rulers and of its men of letters, is scarcely more than a dreary blank. It is my purpose, in the present brief paper, to collect, and, as far as possible, to connect, the detached facts, bearing on a portion of its mediæval history, which recent research has rendered available. These facts, in no small share, are of my own discovering.

From the *Harsha-charita** of Bāṇa, likewise author of the *Kādambarī*, and of the *Chandī-s'ataka*,† we learn, that, in his time, which is

* For a page or two, here, I do little more than copy from my preface to the *Vāsavadattā*; a publication not likely to meet the eyes of many readers of this Journal, or to be consulted for matters of historical fact.

† For a story about this poem, see my preface to the *Vāsavadattā*, p. 8. Whether the *Chandī-s'ataka* was written in rivalry of Mayūra's *Sūrya-s'ataka*, or whether the latter was prompted by the former, each of the compositions reminds one vividly of the other. I have seen but a single copy of the *Chandī-s'ataka*; and that was very incorrect. It contains one hundred and one stanzas, and is attributed, in the epigraph, to Bāṇa Bhaṭṭa. The beginning and end are subjoined, without amendment:

मा भाङ्क्षी निभ्रमं भूरविधुरताकयमास्या स्यरागं
याण्ये प्राण्येव नाऽयं कलयति कलहयद्वा किं त्रिशूलम् ।

known to have been shortly before the middle of the seventh century, the king of Kanauj was Harshavardhana, Harshamalla, or simply Harsha.* His elder brother was Rājyavardhana;† and he had a sister, Mahādevī, or Rājyas'ri. Their parents were Pratāpas'ila, or Prabhākaravardhana,‡ and Yas'ovatī. Prabhākaravardhana's ancestor, of some unnamed degree, was Pushpabhūti, a native of S'rikāṇṭha.

इत्युद्यत्कोपकेतून् प्रतिसवयवान् प्रापयन्त्येव देया
न्यस्ता वो मूर्ध्नि युष्मान् मरुदसुहृदस्त्रन् संहरचं हिरंहः ॥
सखाङ्गः सन्नचेष्टा भयहृतवचनः सन्नदोर्दण्डशायः
स्थानुर्दण्डा यमाजौ क्षणमिव सभयः स्थानुरेवोपजातः ।
तस्य ध्वंसात् सुरारैर्महिषितवपुषा लब्धमानावकाशः
पार्वत्या वामपादः शमयतु दुरितं दारुणं वः स देवः ॥

Its sixty-sixth stanza occurs, anonymously, in the *Sarasvatī-kaṇṭhāharana*. It is found in the *S'ārngadhara-paddhati* as well, and is there ascribed to Bāṇa. विद्राणे रुद्रवन्दे are the initial words.

* He was reigning when Hiouen-Tsang was in India, namely, between A. D. 629 and 645. *Voyages des Pèlerins Bouddhistes*, Vol. II., p. 247. Bāṇa was a contemporary of Harsha, whom he first saw, he tells us, at S'rikāṇṭha.

Hiouen-Tsang declares, that Harsha was called S'ilāditya also. But of this assertion there is not an inkling in what I have seen of the *Harsha-charita*. Its truth is, indeed, open to grave question; for the titles of none, I suspect, but Kshatriyas end in *āditya*; and the Chinese pilgrim informs us, that Harsha was a Vais'ya. For the rest, he has, pretty evidently, confounded him with another S'ilāditya, whom he terms a Kshatriya. Was Dhruvapaṭu,—called son-in-law of S'ilāditya,—another name of Grahavarman, soon to be mentioned? *Voyages*, &c., Vol. I., pp. 111, 112, 206, and 370; Vol. II., p. 251; and Vol. III., p. 163.

For Dhruvasena, son of S'ilāditya, see the *Journal of the Bombay Branch of the Royal Asiatic Society*, Vol. III., Part II., p. 216.

Of this Dhruvasena, or of some relative of his, bearing the same name, and under the title of Rājā of Vallabhīnagarī, Lakshminivallabha, the Jaina, tells a story, in his *Kalpa-druma-kalikā*.

The partiality for Bauddhas, asserted, by Hiouen-Tsang, of Harsha, must, very probably, be received with liberal discount.

† Not Rājavardhana,—an all but impossible name,—as Hiouen-Tsang has it; but venially, considering the slight difference, to the ear, between the syllables *rāja* and *rājya*. This I pointed out some years ago. But M. Julien still adheres to his authority. He says: "*Lo-che fa-t'an-na* (Rādjavardhana); en Chinois,** *Wang-tseng* l'augmentation, l'agrandissement du roi—Sur la suppression de *d* devant *dh*, voyez § XV. P. 76 of *Méthode pour déchiffrer et transcrire les Noms Sanscrits qui se rencontrent dans les Livres Chinois*, &c. Paris: 1861. In passing, there is no necessity for supposing, in this case, that *d* is suppressed before *dh*; for *vardhana* is just as correct Sanskrit as *varddhana*.

‡ I have no time to dwell on the speculations of Professor Lassen touching these persons. Misled by Hiouen-Tsang's indeterminate style of expression, he makes two kings, Harshavardhana and S'ilāditya, out of one. Again, characteristically enough, he gratuitously provides, in S'ilāditya, a father for one Dharmāditya,—a founding, for anything ascertained to the contrary,—whom he elevates, and his son Jayāditya after him, to the throne of Kanauj. See the *Indische Alterthumskunde*, Vol. III., pp. 669-715, and 1162; and *Voyages*, &c., Vol. I., pp. 111, 112.

I write without the privilege of access to what M. Reinand has published on India as represented by the Arabian travellers.

Whether Pushpabhúti was, or was not, of regal condition does not appear. In religion, he was a S'aiva; and one Bhairava Áchárya was his mystagogue.

Prabhákaravardhana accorded his preference, in matters of devotion, to the sun; and Mádhavagupta served him as spiritual counselor. His exploits, as recorded, include the subjugation of the Húnas, with Sindhu, Gurjara, Gándhára, Láta, and Málava. Due allowance must, of course, here be made for exaggeration. Unquestioning confidence in the representations of Indian panegyrists would entail the conclusion, that, in the bygone days of this country, everybody, above all if a patron, was constantly vanquishing everybody else.

Rájyavardhana, by command of his father, made an expedition to the north, against the Húrahúnas.* Harsha followed him. While hunting on the skirts of the Himálayas, a domestic, Karangaka, brought intelligence, that the king was critically ill. Harsha hastened back, and was just in time to see him expire. On the very day of Prabhákaravardhana's decease, Grahavarman was massacred by the king of Málava, who also threw Rájyas'rí into chains. This took place at Kanauj.

Grahavarman, son of Avantivarman, of the Maukhara family, was husband of Rájyas'rí. As we do not find it stated distinctly, that the king of Málava had aggressed on Kanauj, we should understand, it may be, that Grahavarman owed his death to the son of that sovereign, who, it is said, was staying at the Kanaujan court. Apparently, he was there in character of hostage; and perhaps he received the assistance of troops from his home unexpectedly.

Rájyavardhana, taking with him Bhaṇḍin,†—a subject of high

* As I have noted elsewhere, the Húrahúnas—and they may have been the same as the Húrahúnas,—are coupled with the S'akas in the *Mahábhárata*, *Sabháparvan*, s'l. 1843, 1844. See some remarks on the Húnas in the *Journal of the American Oriental Society*, Vol. VI., pp. 528, 529.

For the Halahúnas (?), see Professor Weber's Catalogue of the Berlin Sanskrit MSS., p. 241.

Colebrooke, speaking of a King Devapála, says: "The tribes of Lásata and Bhota, as well as Hun, are mentioned among his subjects, with the tribes of Gaṇḍa, Málava, Karnáta, &c. He was, therefore, sovereign of Thibet and Bootan, as well as of Hindusthan, Bengal, and the Dekhin. It was, probably, in Thibet that he encountered the Huns, and reduced them to subjection." *Transactions of the Royal Asiatic Society*, Vol. I., p. 227.

The Húnas are, thus, not recognized, by Colebrooke, as other than a people foreign to India. The notion, that there were not Hindu Húnas, I have previously shown to be, anyhow, not established entirely beyond scope of question.

† The minister "P'o-ni"—M. Julien's Báñi, Bhañi, and Bhañi (?)—into

rank, by whom his education had been superintended,—and an army of ten thousand horse, marched to attack the king of Málava. Him he slew; but his own fate was defeat and death at the hands of Gupta,* king of Gauḍa, of which the news was brought back by Kuntala, a chief officer of cavalry. Sinhanáda and Skandagupta, the generalissimos, urge Harsha to make reprisals; and they lose no time in embarking on the enterprize.

The account of Harsha's progress towards the south-east I omit.† Before he could reach Gauḍa, Bhaṇḍin arrived, with spoils of the Málavas. Enquiries were at once made for Rájyas'rí. She had escaped from Kanauj, and had fled towards the Vindhya mountains. Thither Harsha directs his steps. He is visited by Bhúkampa, a military retainer to some local dignitary, Vyághraketu, son of S'arabha-ketu. These names, by the bye, seem to be coinages suggested by the fancied fitness of circumstances. Bhúkampa knows nothing of Rájyas'rí's present quarters, and recommeuds, that Harsha should seek for information at a neighbouring hamlet. She is discovered, when on the very point of burning herself.

At this juncture my least imperfect manuscript of the *Harsha-charita* unfortunately breaks off. With one more reference, I shall take leave of it. Among the Vindhyas, Harsha meets with a holy mendicant, Divákaramitra by name, a Bauddha pervert from Hinduism. In his vicinity resided various religionists, whose denominations I detail; it being interesting to know what Indian sects had existence in the seventh century. There were Arhatamaskarins, S'weta-vratas, Páñḍurabhiḱshus, Bhágavatas, Varṇins, Laukáyatikas, Jainas, Kápilas, Kánádas, Aupanishadas, I's'warakárapins, Dharmas'ástrins, Páuráṇikas, Sáptatantavas, S'ábdas, and Páncharátras.

whose mouth a long speech is put, in the Chinese, is, in all probability, my Bhaṇḍin, or Bhaṇḍi—to write the word in the nominative: only Báṇa provides Bhaṇḍin with an alibi at the time Hiouen-Tsang sets “P'o-ni” to haranguing at Kanauj. *Voyages, &c.*, Vol. I., p. 112; Vol. II., p. 248; and Vol. III., pp. 435, 492.

* According to Hiouen-Tsang, Rájyavardhana fell a victim to the machinations of S'as'ánka, who reigned at Karṇasuvarṇa. May not that potentate's full name have been S'as'ánkagupta?

The ruins of Karṇasuvarṇa have been discovered, by Captain F. P. Layard, about twelve miles to the south of Murshidabad. See this Journal, for 1853, pp. 281, 282.

I have taken the last paragraph from my preface to the *Vásavadattá*, p. 52. The sentence standing just before it, in that page, is to be expunged.

† At Prágyotishapura he entered into an alliance with Bháskaravarman, the king of Kámrúpa whom Hiouen-Tsang visited. *Voyages, &c.*, Vol. I., pp. 390, 391; and Vol. III., pp. 76, 77.

Harsha's immediate successors in empire have still to reveal themselves. It cannot have been a short catalogue of names that connected his own with those of the next known masters of Kanauj. Of these persons we catch a glimpse in an inscription* of which a rededipement will conclude this paper. For two facsimiles of the original I am indebted to the kindness of our Secretary. The kings, and their consorts, with whom that document brings us acquainted, are as follows :

*Kings.**Queens.*

I. Devas'akti.†	Bhúyiká.
II. Vatsarája, son of D.	Sundarí.
III. Nágabhata, son of V.	Mahísatá.
IV. Rámabhadrá, son of N.	Appá.
V. Bhoja I., son of R.	Chandrabhattáriká.
VI. Mahendrapála, son of B.	Dehanágá and Mahídeví, mothers, respectively, of Nos.
VII. Bhoja II., son of M.	VII. and VIII.
VIII. Vináyakapála, son of M.	

Of these, Nos. I. and VII. are called Vaishnavas; No. II., a Máhes'wara; Nos. III., V., and VI., devotees of Bhagavatí; and Nos. IV. and VIII., heliolators.

Since Vináyakapála bestowed away land in close proximity to Benares,‡ we have proof, that, still in his time, which may have been as late as the middle of the eleventh century, the jurisdiction of Kanauj§ was of great compass.

* It has already been printed in this Journal, for 1848, Part I., p. 71. For Professor Lassen's groundless assignment to Udayapura of the kings with whom it is concerned, see my paper at pp. 195—210 of the last volume of this Journal.

† Every king is styled, in the original, *deva*, and every queen, *deví*,—or *θεὸς* and *θεὰ*;—a mode of nomenclature which the later Greek-speaking people employed very generally, and the Romans, to some extent, in the same way. The author of the *Curiosities of Literature*, had he read excursively in the classical languages of Europe, must have modified his chapter on the "Titles of Sovereigns."

‡ We are informed, that the village of Tikkariká, the object of donation, was situate in the *bhukti* of Pratishthána, in the *vishaya* of Várāṇasí.

Pratishthána once designated, no less than other places, what is now Allahabad. It was, I apprehend, at this locality, characterized—to distinguish it from other Pratishthánas,—as S'ris'a's, or Vishnu's, Pratishthána, that Govindachandra, of Kanauj, bathed in the Ganges, previously to issuing a patent which, a few years ago, was still in existence. See this Journal, for 1858, p. 248. *Bhukti* appears as a synonyme of *bhoga*. *Vide ibid.*, for 1861, p. 197. Tikkariká lay on the high road opposite Kás'í. There is a Tíkarí about two miles from Benares, across the river.

Thus, at a period when Kásí was, presumably, the more popular name of the city of Benares, the circumjacent territory was known as Várāṇasí.

§ In the seventh century, the principality of Kanauj was one of four into which north-eastern Hindusthán was distributed. Albirúni gives *Madhya-des'a*,

In Mahor, or Maholí, as the traditionary capital of a Rájá Bhoja, and in Bhojapura, near Farrukhabad, we possibly have traces of one or other of the Bhojas mentioned above.*

If Devas'akti had not been a usurper, Vináyakapála would naturally have deduced his ancestry from a more remote point than that at which he is seen to begin his family-tree.

In some part of the State of Gwalior there exists a huge inscription,†

"the middle country," as its alternative name. See Sir H. M. Elliot's *Bibliographical Index to the Historians of Muhammedan India*, Vol. I., p. 34.

In the tenth century, the city of Kanauj is said to have been the first city in all India.

Kanauj, according to the *Haima-kos'a*, IV., 39, 40, was denominated Gádhipura, Kanyakubja, Kányakubja, Kaus'a, Kus'asthala, and Mahodaya. I have seen all these names, Kaus'a excepted, in other books, or in inscriptions. The *Harsha-charita* calls Kanauj Kus'asthala. In the inscription under notice we have Mahodaya.

Of the various forms of the word from which Kanauj, Kanoj, or Kanawaj is corrupted, the most usual, in old manuscripts and inscriptions, is Kanyakubja. Kányakubja likewise occurs, and with the countenance of the scholiast on the *Haima-kos'a*; and so, in the *Dvirúpa-kos'a*, does Kányakubja.

Mahobá, for numerous reasons, is not to be thought of as the modern representative of Mahodaya. Nor is Maudhá; nor is Mahedú. For indications guiding me to these conclusions, I have to thank Mr. Henry Dashwood, Judge of Banda.

For what looks like Mahodayá, as the name of a woman, a Thakkuráuí, see the *Asiatic Researches*, Vol. XV., second inscription at the end, ninth line.

The Hindu lexicographers apprise us, that Pátaliputra had a second appellation, that of Kusamapura. Hiouen-Thsang additionally declares, that the latter is the older. The late Professor Wilson, speaking of the Pushpapura of Dañdin, says: "The term Pushpapura, the Flower-city, is synonymous with Kusumapura, and is essentially the same with what should probably be the correct reading, Pátalipura, the Trumpet-flower city. A legend as old as the eleventh century, being narrated in the *Kathá-sarit-ságara*, published and translated by Mr. Brockhaus, has been invented, to account for the name Pátaliputra; but this has evidently been suggested by the corruption of the name, and does not account for it. That Patna was called Kusumapura, the Flower-city, at a late period, we know from the Chinese-Buddhist travellers, through whom the name Ku-su-mo-pu-lo became familiar to their countrymen." *Das'a-kumára-charita*, Introduction, p. 8.

Had Professor Wilson any doubt, when he used the expression "at a late period," that Hiouen-Thsang came to India in the seventh century?

But of Kanauj also, according to the Chinese pilgrim, Kusamapura was the more ancient designation. In support of this statement, Hindu authority is still wanting. See *Voyages*, &c., Vol. I., p. 137; and Vol. II., pp. 224, 410.

* Maholí is on the river Gumti, fifty-five miles north-east from Kanauj. Col. R. R. W. Ellis has it, that Bhoja reigned there in Samvat 1011, which corresponds to A. D. 954: but the authority for this statement is not very convincing. If the Bhojapura near Farrukhabad was named from a king of Kanauj, his memory has quite perished in what was once his own kingdom; seeing that the pandits of Bhojapura confound him with Bhoja of Dhárá. See pp. 173, 175, 179, and 185 of Col. Ellis's *Legendary Chronicles of the Buildings of Ancient India, and Genealogical Lists of the Rajput and Brahmin Tribes*. This suggestive volume was printed, for private circulation, at Delhi, in 1854.

† It is in forty-six lines, each of which, measuring about two yards long, contains, or contained, not far from two hundred and twenty-five characters.

a transcript of which I owe to Colonel Alexander Cunningham, a gentleman whose name has long been most honourably identified with the subject of Indian archæology. Besides that my copy is full of breaks at the beginning, the native who executed it was, evidently, unable to discharge from his mind the impression, that he had before him ill-written modern Devanágari. Though intending to prepare a facsimile, he has, in patches by the dozen, altered as many as eight or ten consecutive letters, and in such sort,—no uniformity being observed in his commutations,—as to produce the very perfection of all that is unintelligible. It is not much that, without hazard of being deceived, I have succeeded in gleaning from his laborious infidelity.

From the two opening lines 'of the transcript, if they were un mutilated, we might discover who preceded the first king of name now legible in the inscription,—Mahendrapála. Near where he is spoken of is the date 960. Next comes Bhoja, and then Mahendrapála again, with the date 964. Further on Kshitipála is mentioned; and, after him, Devapála, the date 1005 being close by. These dates, I may observe, are not sufficiently particularized for one to certify their era by calculation.

Now, we have here, at least in seeming, the succession of Mahendrapála, Bhoja,* and Mahendrapála. Before the first of them, another Bhoja may originally have been enrolled; and, not impossibly, we have, after all, but a single Mahendrapála to enumerate. It is, then, barely suggestible, that, in these kings, we meet with the progeny of the Kanaujan Devas'akti. The kings of the record before us are memorialized as having granted away land, and other things, by way of local donaries,† in ten several years, ranging from 960 to 1025.

* The Bhoja—whose father has been made out to be Rámachandra,—of the Thanésur inscription is, manifestly, a different person from any Bhoja referred to in this paper. See this Journal, for 1853, pp. 673-679.

S'ankaravaraman, of Cashmere, is said to have seized upon the kingdom of a Bhoja. Professor Wilson, who will hear of only one Bhoja, assumes, that he of Dhárá is intended. See the *Asiatic Researches*, Vol. XV., pp. 85, 86.

† Most of them are appropriated to the service of Vishṇu,—also called Nárāyaṇa, and Chakraswámin,—who has, throughout the deeds, the title of *bhāṭṭāraka*. But other deities, great and small, are not forgotten; as S'iva, Umá, Vámana, Vais'wánara, Tribhuvanaswámin,—whoever he was,—and the obsolete Vanḍukíya and Bháilaswámin.

I have now produced two authorities for Chakraswámin, to add to Albirúni, cited by Messrs. Boehtlingk and Roth, in their *Sanskrit-wörterbuch*. See the *Journal of the American Oriental Society*, Vol. VII., p. 27, and my note at p. 42, *ibid*.

Devapála's date, accordingly as it is computed in Samvat, or in S'aka, is equivalent to A. D. 968, or to A. D. 1103. On the theory, that we have here to do with the rulers of Kanauj, the fact, that Vináyapála is passed by unnoticed, may be accounted for by supposing, that, in his reign, benefactions to the Gwalior temple were intermitted. Indeed, it would be unsafe to affirm, that his name may not lurk, undetected, in the waste of incoherence which divides Mahendrapála from Kshitipála. If Kanauj at any period reached as far as Benares in one direction, and as far as Gwalior in another, it must have been a sovereignty of first-class dimensions.*

We now come to the last line of Kanauj Hindu kings, with any propriety so entitled.† Little more has transpired, regarding them, than their appellations; and some of the years in which they held power, with exception of the first.

I. Chandra.

II. Madanapála, son of C. A. D. 1097.

III. Govindachandra, son of M. A. D. 1120 and 1125.

IV. Vijayachandra, son of G. A. D. 1163.‡

V. Jayachandra, son of V. A. D. 1177, 1179, and 1186.

Chandra, who conquered Kanauj, was son of Mahíchandra, son of Yas'ovigraha. It is doubtful whether Yas'ovigraha was a king; and whether, if so, he is to be identified with one of two magnates

* Benares, when the inscription from Sárnáth was written, was a dependency of Gauda. That inscription, which—provided the printed copy is trustworthy,—exhibits the names of Kings Mahípála, Sthirapála, and Vasantapála, is dated in a year 1083. Reckoned from Vikramáditya, this is equal to A. D. 1026; and to A. D. 1161, reckoned from S'aliváhana. If A. D. 1026 be its true time, Benares passed from the possession of the rulers of Kanauj antecedently to the invasion of Chandra. See the *Asiatic Researches*, Vol. V., octavo edition, pp. 131, etc.

For an inscription still inedited, see the *Asiatic Researches*, Vol. XVII., p. 621. It came from Jhoosee, across the Ganges from Allahabad. I write with the plate before me: but so numerous and so grave are its errors, that I shall not adventure a full translation. It contains a land-grant, the donor of which, King Vijayapála, son of Adyapála, son of Trilochanapála,—seems to have lived on the banks of the Ganges, near Prayága: प्रयागसमीपगङ्गातटा°. Pratishthána is mentioned in it. The date is Samvat 1084, S'rávana, *vadi* 4.

It should appear, therefore, that, already in the eleventh century, there were independent chieftains intermediate to Kanauj and Benares.

No equally early instance has, I believe, before been met with, in Sanskrit, of Prayága as naming the confluence of the Ganges and Jumna. But Prayága was familiar to Albirúní.

† See my paper on this family, in this Journal, for 1858, pp. 217-250.

‡ With him synchronized a reputed tyrant, Hammíra. Captain Fell confounds this Hammíra with Hammíra of S'ákambhari, who lived in the fourteenth century; and he misreads Col. Wilford. See the *Asiatic Researches*, Vol. XV., pp. 444, 448, and 455; and Vol. IX., pp. 188, 189.

named Vighraha.* As for Jayachandra, he was defeated, and his monarchy completely overthrown, by Shihábuddín, in A. D. 1194.†

Apart from the personages of whom I have been treating, detached kings of Kanauj, as mere names, are not unknown to investigators into the past history of India. In the main, however, great uncertainty invests all that has been asserted of them; and, furthermore, it does not fall within the programme of this paper to make them the subject of special inquiry.‡

Considering the illustrious station which Kanauj long maintained among Indian cities, we should expect to be able to refer to it a fair

* See this Journal, for 1858, pp. 217, 218, foot-note.

† "Jayachandra went on a pilgrimage to Sinhálá (Ceylon), and received from Vírabhadrá, King of Sinhálá (whom, by the bye, he conquered) a most beautiful female. Prithivirája, (commonly called Pithaurá), the last prince of the Chauhan dynasty, already enraged at Jayachandra, from a supposed assumption of having undertaken a sacrifice at which Prithivirája ought to have been allowed to preside, was exasperated at this; and a long and bloody war took place between the parties. This lasted until Anno Domini 1192, when Shihábuddín invaded the dominions of Pithaurá: Jayachandra entered into a league with the invader, and Pithaurá was slain in a desperate battle fought on the plains of Thanesar. The alliance between Shihábuddín and Jayachandra did not last long; for, in the year 1194, a great battle was fought between them, near Etawa, in which Jayachandra's army was totally routed; he himself was obliged to flee, and, in attempting to cross the Ganges in a small boat, was drowned." Captain Fell, in the *Asiatic Researches*, Vol. XV., pp. 456, 457. But compare Vol. IX., pp. 171, 172; and the *Ayín-i-Akbarí*, Vol. II., pp. 97-99.

According to the *Rauzatu-t-táhirín*, Shihábuddín captured three hundred elephants from the Rájá of Kanauj. See Sir H. M. Elliot's *Bibliographical Index to the Historians of Muhammedan India*, Vol. I., p. 301.

‡ In Kshemaukara's Jaina version, in Sanskrit, of the *Sinhásana-dwátrins'atí*, it is stated, that there was a Rájá Maruṇḍa, of Kanyakubja, whose ghostly adviser was Pádalípta Súri. In the *Kathá-kos'a*, another Jaina work, Pálitta,—the Prakrit form of Pádalípta,—founder of the city of Pálitáná, is said to have instructed Rájá Muruṇḍa: but this prince's place of residence is not mentioned. He has not, I think, hitherto fallen under any one's notice. It will have been observed, that the name is variously spelled.

One Yas'ovarman, king of Kanauj, is said, in the *Rája-tarangíní*, to have been dispossessed of his dominions by Lalitáditya, sovereign of Cashmere. This subjugation Professor Wilson, who surmises that it could have been but temporary, assigns to the first half of the eighth century. But the chronology of the *Rája-tarangíní* stands, in general, in much need of adjustment. *Asiatic Researches*, Vol. XV., pp. 45, 463.

Vírasinha is reported to have been the king of Kanauj who sent to Bengal the ancestors of its present Bráhmans. See this Journal, for 1834, p. 339, foot-note; and *Third Series of Papers grounded upon the General Reality of the Pauráṇika Characters*, &c. Tellamor, Masurí: 1856.

They were invited by "Ádis'wara, king of Gauda, who is said to have reigned about nine hundred years after Christ." Colebrooke's *Miscellaneous Essays*, Vol. II., pp. 187, 188. Colebrooke originally wrote "Ádisúra," "who is said to have reigned about three hundred years before Christ." *Asiatic Researches*, Vol. V., octavo edition, p. 64.

Colonels Wilford and Tod, the Muhammadan writers, and the numismatists, as contributors to our knowledge of Kanauj, need not detain us.

contingent of the Sanskrit literature of the silver age. Yet, so far as I can recollect, the sole extant* Sanskrit composition hitherto shown, except by myself, to be associated with it, is the *Vis'wa-prakás'a*, an homonymic lexicon, by Mahes'wara, written in the year 1111 of our era.†

To the *Vis'wa-prakás'a* we may certainly add the numerous productions of S'rīharsha, poet, philosopher, and chronicler. Out of nine of his works whose titles have come down to us, only two are known to have survived to the present day; the *Naishadha-charita* and the *Khaṇḍana-khaṇḍa-khādyā*. All that we can be sure of, in respect of the age of S'rīharsha, is, that he was later than Kings Chhanda and Sāhasānka, and earlier than the *Saraswatī-kanthā-bharaṇa*, in which the *Naishadha-charita* is quoted.‡

* On the faith of the *Rāja-taranginī*, a Bhavabhūti was patronized by Yas'o-varman of Kanauj. Was he the well-known dramatist? As there has been a plurality of Kālidāsas, why may there not have been a plurality of Bhavabhūtis likewise? Vākpati is named along with Bhavabhūti; and there were at least two poets Vākpati. See the *Asiatic Researches*, Vol. XV., pp. 45, 86.

† Having Kanauj in view, Professor Wilson alleges, that "A prince named Sāhasānka must have occupied the throne about the middle of the tenth century; as Mahes'wara, the author of the *Vis'wa-prakás'a* in the year 1111, makes himself sixth in descent from the physician of that monarch." *Asiatic Researches*, Vol. XV., p. 463: and see *Sanskrit Dictionary*, first edition, Preface, pp. xxvii., xxix.

This is a mistake. The account which Mahes'wara gives of his progenitors is as follows. First was Harichandra, a medical writer, who annotated on Charaka, and professionally served King Sāhasānka. Descended from Harichandra, but distant from him we know not how many generations, was Kṛishṇa, physician to an unnamed king of Gādhipura, or Kanauj. Kṛishṇa had a son, Dāmodara; and Dāmodara had two sons, Kṛishṇa, and another whose name is not specified. The latter had a son, Kes'ava. A son of the former was Brahma(?), who was father of Mahes'wara.

For the above I have consulted a very old manuscript; and it differs from those which have been examined in England. See Dr. Aufrecht's *Catalogus Cod. Manuscript. Sanscrit, &c.*, Pars. I., pp. 187, 188.

Mahes'wara, besides being a lexicographer, wrote, he says, with other "great compositions," the *Sāhasānka-charita*. Sāhasānka, of whom we have just read, was, without much doubt, lord of Kanauj. S'rīharsha, to whom we shall come presently, wrote a *Nava-sāhasānka-charita*. This name lends colour, at first sight, to the view, that S'rīharsha was posterior to Mahes'wara. The reverse was the case, possibly; and S'rīharsha may have rivalled some earlier biographer of Sāhasānka; whence his choice of a title.

Mahes'wara was contemporary with king Madanapāla; and Sāhasānka, if of Kanauj, was of the family from which the realm was usurped by Chandra.

‡ For further particulars, see the Preface to the *Vāsavadattā*, pp. 17, 18, foot-note.

A caustic anecdote is told of S'rīharsha. I have often heard it from the mouths of the pandits; and it has been related, in print, by Pandit Is'warachandra Vidyāsāgara, in his Bangālī pamphlet entitled *Sanskṛita-bhāshā o-Sanskṛita-sāhitya-s'āstra-vishayaka-prastāva*.

Bāna's *Harsha-charita*, *Kudambari*, and *Chandī-s'ataka* as was remarked near the beginning of this essay, were composed at Kanauj, and when its sceptre was wielded by Harshavardhana. Contemporaneous in publication were the *Ratnāvalī* and the *Nágánanda*, dramas held in high esteem by the Hindus.

The *Ratnāvalī* I was once disposed to adjudge to Bāna; and this adjudication, as against that of the late Professor Wilson, has not, I believe, been contested. But, on closer inspection of materials which are accessible to no one but myself, I have struck upon a consideration partially adverse to what may have been regarded as an irreversible award.*

In the *Ratnāvalī* there is a stanza which is read, word for word, in the *Harsha-charita* as well.† It may be translated thus; "Destiny, when favourable, fetches, even from another continent, or even from the midst of the sea, or even from the bounds of space, that which is desired, and instantly brings it to pass." Hindu poets not unfrequently repeat themselves; but downright plagiarism, among them, of one respectable author from another, is unknown. That the verses in discussion are not interpolated, is sufficiently clear from the fact of their being altogether apposite to both the connexions in which they occur. Are they, then, an unacknowledged quotation?

But, again, the *Ratnāvalī* contains a stanza which is embodied, with the change of a single word, in the *Nágánanda* likewise. In a literal version its meaning is: "Our able poet is the fortunate Harsha. Moreover, this auditory appreciates merit; and the achievements of the Vatsa prince‡ are taking with the people; and we are skilful

On finishing the *Naishadhīya*, S'rīharsha showed it to his maternal uncle, Mammata Bhaṭṭa, author of the *Kārya-prakāśa*. The critic, after perusal, expressed a regret, that he had not seen it sooner. In compiling his chapter on blemishes, he had been put to the trouble of travelling through numberless volumes, in search of illustrations. Had he only known of the *Naishadhīya* in time, he might have drawn on it, he declared, without going further, to exemplify every possible species of defect.

* See the preface to the *Vāsavadattā*, pp. 12-16, foot-note.

† In the fifth chapter. And see the Calcutta edition of the *Ratnāvalī*, p. 3. The original words are these:

द्वीपादपद्मसुखादपि मध्यादपि जलनिधेर्दिशोऽप्यन्तात् ।

आनीय ऋटिति घटयति विधिरभिमतमभिसुखोभूतः ॥

This is quoted, as from the *Ratnāvalī*, in the *Saraswatī-kaṇṭhābharaṇa*.

‡ Professor Wilson everywhere errs in assuming *Vatsarāja* to mean "King Vatsa." Udayana is intended. The city of Kaus'āmbī is styled *Vatsa-pattanam*, "the capital of Vatsa:" and Vatsa denoted a people, and perhaps a region also,

in dramatic representation. Any one particular of these is a source for the attainment of whatsoever aspiration. What, then, *can be said*, when, owing to my affluent good fortune, this entire category of excellencies is *presented* in combination?"* For *Vatsarāja* we have, in the *Nágánanda*, *Siddharāja*, a descriptive epithet of the hero of the play, *Jímútaváhana*.

Now, both the *Ratnávalí* and the *Nágánanda* are dedicated to Harsha : for so we are to understand their being attributed to him, as if he were author of them ; a custom by no means unprecedented in the annals of Indian literature. The writer of the *Ratnávalí* was a Hindu ; that of the *Nágánanda*,† a Bauddha. The latter may

but not a man. See the preface to the *Vásavadattá*, p. 4, foot-note; and the *Haima-kos'a*, IV., 41.

* श्रीहर्षो निपुणः कविः परिषदेष्वपि गुणग्राहिणी
लोके हारि च वत्सराजचरितं नाद्ये च दत्ता वयम् ।
वस्त्वैकैकमपीह वाञ्छितफलप्राप्तेः पदं किं पुनर
सङ्गाद्योपचयादयं समुदितः सर्वो गुणानां गणः ॥

See the printed *Ratnávalí*, p. 2. My text, for which I have collated several manuscripts, punctually agrees with it, as concerns this extract. The manager is here conciliating the favour of the audience on behalf of the troop of players, himself, &c.

Professor Wilson says, respecting his English recension—as it really is—of the *Ratnávalí*, that it may “serve to convey some idea, how far the translator may be suspected of widely deviating from his text in the preceding dramas;” where verse is rendered in verse. The passage just given is professedly reproduced, by him, in this strange manner: “S’rī Harsha is an eminent poet; the audience are judges of merit; the story of Vatsa is current in the world; and we, the actors, are experienced in the histrionic art; and I hope, therefore, that, with so precious a poem, and such means of doing it justice, the opportunity afforded me of appearing before so distinguished an assembly will yield me the fruit of all my desires.” *Select Specimens of the Theatre of the Hindus*, second edition, Vol. II., pp. 261 and 265.

† It is somewhat singular, that this play should have escaped the questing of Professor Wilson; as it is not very extraordinarily rare, and as it is more than once referred to, and extracted from, in the *Das’arūpāvaloka*. I have, among my private manuscripts, two copies of it, a complete one, and one broken. It is in five acts, and is of no great length. Its fable is the story of *Jímútaváhana*, now rendered familiar by the publication of the first volume of the *Kathá-sarīt-sāgara*.

Of its two benedictory stanzas the first is subjoined :

ध्यानव्याजमुपेत्य चिन्तयसि कामुन्मोह्य चक्षुः क्षणं
पश्चाज्जगत्तरातुरं जनमिमं त्रातापि नो रक्षसि ।
मित्या कारुणिकोऽसि निर्घृणतरस्वत्तः स कोऽन्यः पुमान्
सेर्यं मारवधूभिरित्यभिहितो बुद्धो जिनः पातु वः ॥

“ ‘With eyes unclosed for a moment, on what female art thou ruminating, under pretext of pious contemplation? Behold these persons, *ourselves*, vexed

have borrowed a couplet from the former; or the former, from the latter: and Báṇa may have introduced, quotationwise, into his *Harsha-charita*, from a work not his own, the fatalistic verses of the *Ratnāvalī*. However all this may have been, it is scarcely questionable, that the *Ratnāvalī*, the *Nāgānanda*, and the *Harsha-charita*, were produced in the seventh century, and at the court of Harsha of Kanauj; and it will, perhaps, still be proved, that the first and the third were from the pen of one and the same person.*

“The mere question,” observes Dr. Rowland Williams, “whether the court at which Kālidāsa flourished is that of Vikramāditya, at [in] Málava, 56 B. C., or that of another prince, at Ujjayinī, [?] nearly a thousand years later, shows the uncertainty of most things in Indian literature.”† A Kālidāsa, and indubitably the greater Kālidāsa, being noted with eulogy by Báṇa,‡ it will not answer, any longer, to think of bringing him down to the days of Bhoja of Dhárā.§ Indeed, no good cause has as yet been produced for rejecting the Indian tradition, that Kālidāsa antedated the Christian era.

One poet more remains, whose connexion with Kanauj may be counted a certainty. I mean Rájās'ekhara, author of the *Viddha-s'āla-bhanjiká*, of the *Prachāṇḍa-pāṇḍava*, or *Bāla-bhārata*, of the *Bāla-rámáyana*,|| and of the *Karpūra-manjarí*. In all four works, he speaks of his patron as being Mahendrapála, of the city of Mahodaya. Mahendrapála is also called Mahípála; and his father, Nirbhayanarendra. To the

by the shafts of Ananga. Albeit a guardian *in name*, thou dost not defend. Hypocritically art thou compassionate. Who is more extremely cruel than thou? May the Buddha, victorious *over his passions*, who was thus enviously addressed by the mistresses of Mára, protect you.”

Jina is the generic appellation of any Buddha; but here, I think, the word is the subject of a paronomasia.

* S'itikanṭha, in his commentary on the *Kārya-prakás'a*, the *Kārya-prakás'a-nidars'ana*, gives Báṇa, not Dhāvaka, as Mammata's name of the poet who was enriched by Harsha. He does not speak of the *Ratnāvalī* as being the work which brought gain to the poet; but the omission is supplied by other annotators, such as Vaidyanátha, Jayaráma, and Náges'a. See the Preface to the *Vásavadattá*, p. 16, foot-note.

† P. 287 of *Christianity and Hinduism*. Cambridge: 1856.

‡ See the Preface to the *Vásavadattá*, pp. 14, 15, foot-note.

§ It is high time to give up speaking of this prince as a great patron of literature. His pretensions to be so considered rest on the frailest foundation possible.

|| Professor Wilson knew it by a reference only. I have seen a complete copy; the property of Esobá S'ástrin, of Saugor. It is in ten acts.

first the poet was preceptor.* If Nirbhayanarendra was the title of the Bhoja I. of the Kanauj copper-plate, whose son was Mahendrapála, it cannot be that this Rájás'ekhara compiled and supplemented the Bilahari inscription,† which I have assigned, but with much hesitation, to the early part of the twelfth century.

INSCRIPTION REFERRED TO AT P. 5.

ओम् । खस्ति ।

श्रीमहोदयसमावासितानेकनौहस्यश्वरथपत्तिसम्पन्नः‡ सुद्धाचारात् परमवैष्णवो महाराजश्रीदेवशक्तिदेवस्तस्य पुत्रस्तत्पादानु-
ध्यातः श्रीभूयिक्कादेयामुत्पन्नः परममाहेश्वरो महाराजश्रीवत्स-

* In the *Tiddha-sála bhanjiká*, Mahendrapála is called *yuvarāja*; and the terms *yāgyávāra* and *dauhiki*, perhaps "maintainer of a sacrificial hearth" and "son of Duhika," are there applied to Rájás'ekhara.

Of Rájás'ekhara, Professor Wilson has said, with the *Prachanḍa-pāṇḍava* before him: "He is here described as a poet who occupies that rank in the literature of the day which Válmiki, Vyása, Bhartṛihari, and Bhavarabhúti, have severally filled. * * * * * The *sūtradhára* observes, of the assembly, that it is formed of the learned men of the great city of Mahodaya, or the great Udaya; possibly Udayapur, the princes of which city affect to trace their descent from Ráma. The modern city of Udayapur, however, was not founded before the sixteenth century; and the name must be applied to some other place, unless it be no more than a title meaning the very splendid or fortunate. We cannot doubt the long prior existence of the drama, from the mention made of it, or of its author, in the works to which reference is made in the preceding article, and to which we may add the *Kāvya-prakás'a*, a work probably anterior to the foundation of the modern Udayapur. Mahodaya may be the origin of the name of Mahoba, a city of which extensive ruins remain, and of which the history is little known." *Select Specimens of the Theatre of the Hindus*, second edition, Vol. II., pp. 361, 362.

The *Prachanḍa-pāṇḍava* is not mentioned in the *Kāvya-prakás'a*: but the *Karpúra-snanjari* is. As for Mahodaya, and its identity with Kananj, the Professor forgot here to look into his own dictionary. Further, he has foisted in Vyása; and he has arbitrarily altered Bhartṛimeṇṭha into Bhartṛihari:

बभूव वल्मीकभवः पुरा कविस्
ततः प्रपेदे भुवि मर्दनैष्ठताम् ।
स्थितः पुनर्यो भवभूतिरेखया
स वर्तते सम्प्रति राजःशेखरः ॥

"Of yore there was a poet sprung from a white-ant-hill (*valmika*). Subsequently he became Bhartṛimeṇṭha; and, again, he existed as Bhavarabhúti. The same is now Rájás'ekhara."

For the story of Válmiki's resurrection from a termite-mound, see this Journal, for 1852, pp. 494-498.

A specimen of Bhartṛimeṇṭha's poetry is extracted in the *S'árngadhara-paddhati*; with two specimens of Meṇṭha's.

† See p. 321 of the preceding volume of this Journal.

‡ The *visarga*, as obviously being required, has been supplied. The श्व has been inserted by conjecture: but the conjunct in हस्य could not but at once suggest it.

राजदेवस्तस्य पुत्रस्तत्पादानुध्यातः श्रीसुन्दरीदेव्यामुत्पन्नः परं भगवतीभक्तो महाराजश्रीनागभट्टदेवस्तस्य पुत्रस्तत्पादानुध्यातः श्रीमहीसटादेव्यामुत्पन्नः परमादित्यभक्तो महाराजश्रीरामभट्टदेवस्तस्य पुत्रस्तत्पादानुध्यातः श्रीमदप्यादेव्यामुत्पन्नः परं भगवतीभक्तो महाराजश्रीभोजदेवस्तस्य पुत्रस्तत्पादानुध्यातः श्रीचन्द्रभट्टारिकादेव्यामुत्पन्नः परं भगवतीभक्तो महाराजश्रीमहेन्द्रपालदेवस्तस्य पुत्रस्तत्पादानुध्यातः श्रीदेहनागादेव्यामुत्पन्नः परमवैष्णवो महाराजश्रीभोजदेवस्तस्य भ्राता * श्रीमहेन्द्रपालदेवपुत्रस्तत्पादानुध्यातः श्रीमहीदेवीदेव्यामुत्पन्नः परमादित्यभक्तो महाराजश्रीविनायकपालदेवः प्रतिष्ठानभुक्तो वाराणसीविषयसम्बद्धकाशीपारपथकप्रतिबद्धटिक्कारिकाग्रामे समुपगतान् सर्वानेव यथास्थाननियुक्तान् प्रतिवासिनश्चेदमाज्ञापयति ।

उपरिलिखितग्रामः‡ सर्वायसमेत आचन्द्रार्कक्षितिकालं पूर्वदत्तदेवब्रह्मदेववर्जितो मया पित्रोः पुण्याभिवृद्धये § दर्भिसगोत्र॥ अथर्वसब्रह्मचारिभट्टभुक्ताकाय षष्ट्या गङ्गायां स्नात्वा प्रतिग्रहेण प्रतिपादित इति विदित्वा भवद्भिः समनुमन्तव्यं प्रतिवासिभिरप्याज्ञाश्रवणविधेयैर्भूत्वा¶ सर्वाया अस्य समुपनेया इति ।

श्रीहर्षेण प्रयुक्तस्य शासनस्य स्थिरायतः ।

संवत्सरो * * * फाल्गुनवदि । * निबद्धम् ।

SAUGOR, October 5, 1861.

* Instead of this, the former decipherment has श्रीमहेन्द्रपालदेवस्तस्य पुत्रस्तत्पादानुध्यातः.

† Not -भुक्तान्, as was at first read.

‡ Here I have converted a sibilant into a visarga.

§ Of the *gotra* of Darbhīn mention is frequent. For Dār̥bhya, see the *Indische Studien*, Vol. I, pp. 209, 255; and Vol. II., pp. 308, 309; for Darbhya, Professor Max Müller's *History of Ancient Sanskrit Literature*, first edition, p. 283; and, for Darbha, Professor Weber's Catalogue of the Berlin Sanskrit Manuscripts, p. 56, line 7.

|| Here is an error, but of easy correction. There should have been, of course, दर्भिसगोत्रायथर्व०.

¶ The original has, by mistake, -विधेये०.

* Amended from संवत्स्रो. Then follow two unrecognized numerals, denoting a dynastic year, and an indistinct compound character of unknown significance. Further on, the day of the semi-lunation is expressed by a single numeral. It is the same as the first of the two just spoken of.

*Notes of a brief visit to some of the Indian remains in Java.—By
Lieut.-Colonel HENRY YULE, Bengal Engineers.*

It is not likely that much of what I have to say on this subject has not already been told. But these remains are now seldom visited by travellers from India; the accounts of them are probably not familiar; and they are surrounded with such deep interest to all who care for Indian antiquity, that I trust my brief account will not be regarded as superfluous.

It is well known that the central and eastern portions of Java abound with remains of unquestionable Indian origin, both Buddhistic and Brahminical, uniting with the evidence of language and literature in testifying to an extensive intercourse between the countries, of which nothing like real history remains. The accounts of these ruins by Raffles and Crawford had long ago excited my curiosity, and the opportunity I enjoyed some years ago of exploring analogous remains in Burma had converted this into a deeper and more intelligent interest. When therefore in September 1860 I found myself obliged to take a sea voyage, the chance of seeing with my own eyes these mysterious remains not a little influenced me in directing my course to Java.

The localities visited were Boro Bodor and its vicinity in the valley of Kadú, a very garden of cultivation even in that pearl of islands, and Brambánan on the borders of the two still quasi-independent states of Solo and Djokjokarta.

My companion in these visits was Dr. Macpherson of the Madras Army, whose praiseworthy exertions in the exploration of primeval antiquities at Kertch during the Crimean war are well known. In our visit to Boro Bodor, we had the advantage of the company of Mr. Elliott Martin, an English gentleman long resident as a planter in the interior of Java. Boro Bodor we visited from Magelang, the "Suddur station," as we should call it, of the Kadú district, from which it is thirteen miles distant.

Our first object was the temple of Mundót, about 3 miles from the greater monument, Boro Bodor.

This temple was not known to Raffles and Crawford, and possibly has not been described in any English book. Nothing but a tumulus



FIG 1

TEMPLE OF MUNDOT

is said to have been visible on the spot when accident, in the year 1834, led to the discovery that a temple was concealed beneath. As there is no soil but highly cultivated mould in the neighbourhood, the ruins must have been buried by volcanic ashes. Indeed, there can be little doubt that it had been covered by an eruption from the nearest of the still active volcanoes, Mir Api, which, though the least elevated of four magnificent cones that tower over the district of Kadú, rises to a height of 9208 feet above the sea. The discoverer of the temple was Mr. Hartman, the Resident (or as we should say Commissioner) of Magelang, one of the ablest and most popular officers of the Dutch government, and whose memory continues with singular permanence in the recollection of the people. The interior also of the temple was choked with soil, and according to the native story that was told us, the bottom was deeply covered with bat's guano, so that the labourers employed on the offensive business of removing it got a rupee a day from Mr. Hartman. This would seem to show that the eruption occurred long after the temple had been abandoned. The adjacent soil now stands 3 or 4 feet above the base of the building, but an area has been excavated all round to the original level. All is now kept with that neatness and regard for appearances which so eminently characterises the rulers of Java. The temple is surrounded by a garden and fence, with a bungalow for visitors.

The general aspect of the temple is shown in the sketch which I produce, (Fig. 1), and strongly recalls that of some of the smaller ancient temples in Burma. It stands on a basement of about 70 feet square and from 15 to 16 feet high. The superstructure is about 45 feet square externally, and its height including the basement I guessed at about 65 feet. On three sides there is a very slight projection, giving a quasi-cruciform plan to the building, and on the fourth a portico now gone far to ruin, and a flight of steps descending from the elevated basement.

The entrance door is, as far as I could make out, towards the north. I had no compass, and the sun was so nearly vertical, that I could not satisfy myself of its precise direction. In other Buddhist temples that I have seen, whether in Java or Burma, the opening has been to the East.

The cube of the building has been surmounted by a pyramidal

roof, rising in terraces apparently. But it is in too great ruin to allow of one's determining its exact form. When perfect the temple must have been a noble structure,

The material is a close-grained but not heavy volcanic stone, well cut, and very finely jointed, but without mortar. It is much cracked, and whole surfaces of wall threaten to come down.

This absence of mortar is common to all the ancient buildings that I visited, and the result is a degree of dilapidation far greater than age, or even perhaps earthquake, need have occasioned in structures otherwise so solid, a dilapidation which is rapidly advancing and cannot be materially retarded.

The absence of mortar is also a notable feature in the ancient brick temples of Pagan in Burma, in the temple at Buddh-Gya, (but that is certainly Burmese work), and I believe also in the Ceylonese remains, as it is in the topes of Sanchi and Benares. It would be curious to ascertain what is the earliest Indian building in which the joints are set in mortar, and whether the absence of it is peculiar to Buddhist or to sacred buildings. There was no *ignorance* of the use of lime, as I shall mention presently.

The greatest singularity of this, as of some others of the temples in Java, consists in the strange combination of Buddhism and Brahminism which they present. In fact an intelligent Madras servant who was with me, and who explored everything with great interest, hit the right nail on the head in saying "Master; inside temple like Burmese, outside like Hindoo." The inside cell is about 20 feet square rising vertically 16 or 18 feet and then tapering upwards by the projection of each successive layer of stone an inch or two beyond that which underlies it, like the under side of a staircase. It is in fact a form of aspiration towards the arch which is found in primitive buildings in many parts of the world, in the Pelasgian remains of the Peloponnesus and of Asia Minor, and in the tombs of Kertch and of Etruria, in the so-called Picts' houses of Northern Scotland, in the ancient palaces of Yucatan, and in the arcades of the Kootub at Delhi; and is identical in principle with the timber *sanga* with which the Himalayan mountaineers span successfully rivers of more than 100 feet in width.

The cell contains three colossal images, carved in a hard and polished granular volcanic stone probably trachyte. The central one,

not less I think than 11 feet in height, is a nearly naked Buddha, exceedingly well sculptured, seated in an attitude of demonstration or teaching *ex cathedrâ* (Fig. 2.) This has originally occupied an elevated place opposite the entrance, but it has fallen and now leans slanting against the wall. On either side sits, still enthroned, a mild-faced male figure of somewhat smaller size, crowned and jewelled, and having the hands also raised as if in conversational action. These did not appear to represent any Hindu gods, and were without monstrosities or emblems.* There are also six highly sculptured niches in the walls, such as usually contain crossed-legged Buddhas, but empty.

There is then, in the interior, nothing inconsistent with pure Buddhism. But the *exterior* on each side is sculptured in relief with figures which are undoubtedly those of Hindu divinities, with their attendants; an 8-armed goddess on one side, Parvati, I believe; 4-armed gods on the other two. The whole contour of the figures, and that peculiar sway of the hips in the standing attendants, which we still see in coarse modern Indian sculpture, is purely Hindu. Parts of the pilasters or styles of the panels containing these reliefs are richly carved in scrolls, not unlike those on the well-known beautiful arcades of the great mosque at the Kootub. There can be little doubt that these reliefs and all the surface ornaments were sculptured *after* the erection of the masonry, as Mr. Crawford has observed in regard to some others of the Javanese temples. I have lately seen this fashion of working very clearly exemplified in the ancient tope of Sarnath near Benares, where you may see the rich ornamentation of the surface in parts left unfinished, and in parts just etched out to guide the carver. But still I think undoubtedly these reliefs must have been part of the original design, and I do not mention the circumstance as elucidating the combination of Brahminism and Buddhism. I believe this mixture is found in some of the caves of western India. In Ceylon the temples of the Hindu divinities are constantly found immediately adjoining the Buddhist pagodas, and though such a combination is totally strange to modern Burma, we found one very old temple at Pagan which exhibited Hindu divinities in panels on the exterior.†

* May they be Dharma and Sanga, the law and the church, the two other objects of Buddhist reverence?

† See a note by Col. Playre in "Mission to Ava,"—p. 53.

Besides these figures, both the base of the superstructure and the walls of the basement terrace are abundantly sculptured with fantastic subjects. The former is formed into panels of scroll work, the centre of each being a different animal, including the elephant, parrot, braminee goose, stork, deer, buffalo, &c. In the latter, the patterns are alternately of scroll and diaper (See Fig. 3.) The sides of the staircase have been sculptured more rudely with scenes of domestic life, the chase, and other incidents. One of them quaintly represents the old fable of a tortoise carried through the air by two wild geese. In the porch adjoining the entrance, on each side are corresponding groups, one of a man with the brahminical thread, the other of a woman with a child, each surrounded by boys engaged in gathering fruit which others shake down from the trees overhead.

Above these are rows of female figures kneeling towards the shrine, and presenting offerings.

Passing from Mundót about $2\frac{1}{2}$ miles to the N. W. across the river Progo, and noting by the road side a small ancient temple of the same character, which has been caught in the embrace of a large cotton-tree, and is being gradually upheaved by its roots and buttresses, we came in sight of Boro Bodor rising like a half-finished pyramid on the top of a hill about 130 or 140 feet high, and backed by the roots of the great Sumbing, which was itself (alas) invisible, excepting now and then when for a few moments his vast cone peeped forth above the clouds and 11,021 feet above the sea.

A good carriage drive ascends the hill to the base of the building, and passes beyond it to a spacious bungalow or rest-house shaded by a grove of trees. Scattered and fallen sculptured stones and Buddhas have been gathered together and ranged along the avenues of approach. Evidently *now* there is no neglect of this singular and magnificent monument. But no efforts, I fear, can prevent its decay from proceeding with accelerated speed.

It is scarcely possible to find a point of view from which a sketch would give a true idea of this structure, and the best notion of it is to be got from the plates in Raffles and Crawford. Indeed the first near view of Boro Bodor is disappointing. It appears to be far more ruined than it was in the days when Raffles described it, and at first sight it seems little better than a vast and shapeless cairn of stones, with here and there a dome and pinnacle discernible.

A detailed architectural drawing of a classical column capital. The drawing shows the fluted shaft of the column, the capital with acanthus leaves, and the abacus with a diamond pattern. The drawing is a technical sketch, likely for a book or a manual.

06.07.20 08:00 17.08.20 09:00 10.09.20 11.09.20 12.09.20 13.09.20 14.09.20 15.09.20 16.09.20 17.09.20 18.09.20 19.09.20 20.09.20 21.09.20 22.09.20 23.09.20 24.09.20 25.09.20 26.09.20 27.09.20 28.09.20 29.09.20 30.09.20 01.10.20 02.10.20 03.10.20 04.10.20 05.10.20 06.10.20 07.10.20 08.10.20 09.10.20 10.10.20 11.10.20 12.10.20 13.10.20 14.10.20 15.10.20 16.10.20 17.10.20 18.10.20 19.10.20 20.10.20 21.10.20 22.10.20 23.10.20 24.10.20 25.10.20 26.10.20 27.10.20 28.10.20 29.10.20 30.10.20 31.10.20 01.11.20 02.11.20 03.11.20 04.11.20 05.11.20 06.11.20 07.11.20 08.11.20 09.11.20 10.11.20 11.11.20 12.11.20 13.11.20 14.11.20 15.11.20 16.11.20 17.11.20 18.11.20 19.11.20 20.11.20 21.11.20 22.11.20 23.11.20 24.11.20 25.11.20 26.11.20 27.11.20 28.11.20 29.11.20 30.11.20 01.12.20 02.12.20 03.12.20 04.12.20 05.12.20 06.12.20 07.12.20 08.12.20 09.12.20 10.12.20 11.12.20 12.12.20 13.12.20 14.12.20 15.12.20 16.12.20 17.12.20 18.12.20 19.12.20 20.12.20 21.12.20 22.12.20 23.12.20 24.12.20 25.12.20 26.12.20 27.12.20 28.12.20 29.12.20 30.12.20 31.12.20

One great paved and elevated terrace, nearly 400 feet* square, forms the platform. Then rise five successive terraces, each surrounded by a high parapet, so as to form between them four corridors running right round the building. Above these come three concentric rings of small dagobas, and in the centre a large dagoba of about 30 feet in diameter, forming the apex and crown of all. The height to the base of this dagoba is about 90 feet.†

In Raffles's time, much of the basement was covered up, and I believe all the galleries had been at one time filled by the volcanic ashes from Mir Api. Raffles must have partially cleared the basement, as he has given elaborate plans of the whole structure, but the complete clearance of the lower platform was carried out by the same Resident Hartman who discovered Mundot.

In the outer face of each terrace are numerous niches crowned by small model dagobas. Each of these niches has been occupied by a cross-legged Buddha,‡ and both sides of the corridors are carved in a vast series of bas-reliefs. These doubtless represent the history of Gautama Buddha, and are analogous to the extensive series of wall paintings often seen in Burma. From Col. Cunningham's descriptions of Sanchi, they appear to have some resemblance to the sculptures there. They exhibit every variety of life, war, worship, processions, and domestic scenes, with an entire absence of any indecency so far as I saw. Courts, chariots, ships, umbrellas, arms, architectural subjects, &c. &c., afford many interesting glimpses of the race which erected these galleries. The faces are all undoubtedly Hindu, and closely resemble those of the best Hindu sculptures. Indeed the faces are not only the best executed, but the best preserved part of the work, and even where the figures are worn and defaced, as one often sees on an old coin, the faces still retain wonderful sharpness and distinctness of character. The Netherlands Government employed artists for several years to make drawings of all these sculptures, and they are now being engraved in Holland at great expense. To photograph them, would be difficult on account of the narrowness of the galleries. The quality of the sculpture, and of

* I take this from Raffles's plan. Crawford says 526 feet and is probably more correct.

† The whole height according to Crawford is 116 feet.

‡ According to Raffles's plan, there must have been 436 of these.

the work generally, appeared to me to fall off towards the top, as if the builders had wearied of their work.

Among the architrave ornaments both here, at Mundót, and at Brambanan, I observed frequent repetitions of the monstrous grinning head, suspending festoons of beads and bells, which is so common in ancient Indian buildings from Assam and Benares to Ceylon, and which is also so common in the ancient Burmese temples at Pagan, probably nearly coeval with Boro Bodor. Mr. Crawford on the authority of an ambassador of the king of Bali, concludes this to represent Siva. But I believe this is utterly unfounded. It is, whatever the symbol may have meant, (if it meant anything more than a lion's head on a Greek entablature,) one of the most ancient forms of ornament in Indian buildings, probably older than the worship of Siva.

The construction of the small dagobas encircling the apex is very peculiar. They are hollow cages or lattices of stone, each containing a patient Buddh immured, who is visible through the diamond-shaped openings in the dome. Each of these openings is formed by the apposition of two hour-glass-shaped stones. Each of the stones has been cut with tenon and mortice attaching it to its neighbours; and an elaborate system of morticing and dove-tailing appears to run through the whole construction, but which has been lamentably insufficient to keep the joints together in that volcanic region, (Figs. 4, 5). The larger dagoba forming the apex is thoroughly shattered, and will not last much longer. It is said to have been first opened by the English in 1812.

Mr. Crawford describes the Boro Bodor as being merely a shell of masonry round a natural nucleus of hill. I had regarded this merely as a conjecture. But we found an excavation that had been made (lately as it seemed) in the interior of the chief dagoba. And this appeared to show that there was no solid nucleus of masonry. The sides of the pit appeared to be a rubble of earth and stone only.

Mr. Fergusson, who gives a good account of the Boro Bodor in his *Handbook of Architecture*, considers it to be a kind of representation of the great Buddhist monasteries, which are described in the Ceylonese writings as having been many stories high, and as containing hundreds of cells for monks. In Tennent's *Ceylon* (Vol. II. p. 588) there is a wood-cut of a singular pyramidal building at Pollanarua,



EYE SKETCH OF
CHANDI HALI BANENG
(SECTION)
FIG 12



FIG 5

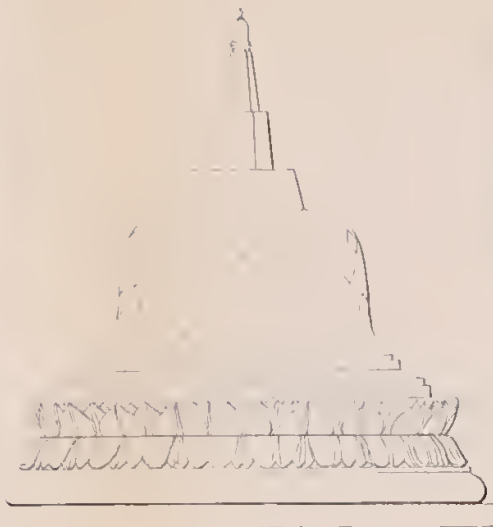
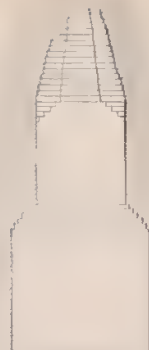


FIG 4
BORROWED FROM RAFFLES



EYE SKETCH OF
CHANDI SEWL
(SECTION)
FIG 13

called the *Sat-mahal Prasada* or Seven-storied House, which, in a rough way, is quite analogous to the Boro Bodor.

But the structure nearest to it in general design, that I have seen or heard of, was one visited by Mr. Oldham and me in 1855, at Mengoon above Amarapoora. It was thus described from my journal. "Further north there is an older pagoda of very peculiar character. The basement which formed the bulk of the structure consisted of seven concentric circular terraces, each with a parapet of a curious serpentine form. These parapets rose one above and within the other like the (seven) walls of Ecbatana described by Herodotus. . . . In the parapet of every terrace were at intervals niches looking outwards, in which were figures of nats* and warders in white marble, of half life size. A great circular wall enclosed the whole at some distance from the base. It was difficult to ascertain the nature of the central structure, so shattered was it by the earthquake. The whole (though round instead of square in plan) had a great general resemblance to the large ancient pyramidal temple in Java called Boro Bodor, as described by Raffles and Crawford; but this Mengoon structure was not, I think, very old, and I doubt if the resemblance was more than accidental. At the foot of the hills some hundred yards to the westward there was another pagoda of similar character which we did not visit."†

I retract the notion that the resemblance was purely accidental. It is one of many analogies between Burma and Java in architecture, arts, and manners, of which the history is unknown, though some of them doubtless came from India with the religion which was once common to both. One idea struck me after seeing the Burmese edifice which I will mention. This is, that both it and the Boro Bodor were meant in a way as symbols of the great world-system of the Buddhists, mount Maha Meru surrounded by its seven concentric ranges of mountains. Nor is this inconsistent with Mr. Ferguson's theory of Boro Bodor. There are *seven* stories both in the Burmese edifice and in that of Tennent's Ceylon. At Boro Bodor there are but five galleries with parapets, but there are six terraces now visible, and the plates in Raffles show that there was a seventh and lower terrace which has not been uncovered. As to Boro Bodor

* Burmese devtas or genii.

† Mission to Ava in 1855, p. 172.

being square instead of round that is a trifle! The plate on the table before you will show you that the Tibetan Buddhists *do* represent mount Meru and its seven ridges as *square*.*

The highest of the volcanic mountains of Java, rising to 12,234 feet above the sea bears the name of *Meru* (Sumeru), as the local representative of the apex of the mythical world.

Above the crowning dome the Dutch authorities have erected seats with a small roof to shade visitors, very welcome and useful, however incongruous. We were unfortunate in weather, but the view from the summit must in a clear atmosphere be quite unique. Casting your eyes beyond the grey and shattered domes which hold in durance the eternally meditative Buddhas at your feet, you overlook the whole valley of Kadú with its gentle slopes and terraces. Line behind line, in infinite perspective, lie the dense groves of cocoa-nut and fruit trees which alone indicate the sites of Javanese villages, the intervals being filled up by a garden-like tillage of rice, sugar, indigo, and a vast variety of other crops. Close behind rise the fantastic peaks and cliffs of the calcareous mountains of Menóreh whilst the panorama in front is framed in by the huge peaks of Sumbing and Sindoro, Mir-Babu and Mir-API, respectively 11,021, 10,321, 10,227 and 9,208 English feet in height above the sea.

I will dwell no longer on Boro Bodor, but pass to Brambánan, to which I was unfortunately only able to give a part of a day. It lies close on the borders of the two states of Djokjokarta and Solo, about ten miles from the former capital and immediately south of the noble cone of Mir-API. The remains here are very numerous and interesting, but I will notice only a few points.

The first piece of antiquity that attracts the eye in travelling from Djokjo is a temple in a field close by the road, called by the people "Chandi Kali Banceng;"† *Chandi* being an Indian word which is still applied to all such Hindu remains in Java. This was a beautiful building, and exceedingly interesting to me from its strong resemblance, both in plan and in the details of ornament, to some of the Burmese temples at Pagán.‡ Like many of these, it was a square

* See Musei Borgiani..... Cosmogonia Indico-Thibetana &c., Romae MDCCXCIII. p. 231. No. 1466 in As. Soc. Library.

† See Fig. 6.

‡ See particularly in Mission to Ava the temple of Senphyokoo. Pl.



CHANDI KALI & IWENO

in plan, with porches on all four sides making it cruciform; three of these porches forming separate chapels, and the fourth, (that to the east), an entrance. Mr. Oldham will remember that these words describe many of the temples that we have explored together in Burma, most accurately. The lower part, to a height of 7 or 8 feet, was occupied by rich and bold base mouldings, much injured, and above this was the level of the entrance, reached by steps. There were no images remaining within, but on the northern and southern sides were the remains of sculptured standing figures holding lotuses apparently, and over the door of one side was a small figure of Buddha. The exterior faces were adorned with highly decorated niches, each surmounted by the grinning head so often spoken of, and a canopy in relief representing an architectural facade. Above this was a very heavy and rich double cornice in great dilapidation, the lower cornice supported by a frieze of little human figures, Atlas-like, bearing it on their hands. The interior was a chamber of about 26 feet square roofed in by the usual false vault in the way shown in the section;* there were here traces of a fine coat of plaster which evidently had at one time covered the whole of the building, and was found even on some of those points which were most richly sculptured, such as the fine scroll work on the pilasters at the angles. This is a very singular feature, and I have little doubt that it was universal in these buildings. The use of lime is entirely rejected as a cement in the joints of the building, but adopted as a coating to the most elaborate surfaces of stone-work. Exactly the same was the case at Pagán, only admirable brick-work was there substituted for stone. If the object was the preservation of the building, it is difficult to understand why the stones should not have been laid with mortar. We know that even the sculptured cave-walls of Ellora and Ajunta have been similarly coated with plaster, and that there it was to give a ground for colouring. Probably the object here was the same.

* Fig. 12. There is, I find, a description of this temple, with a plan and section in Raffles, but no view. It is by Captain G. Baker whom Raffles employed to draw and survey the remains, and I may mention that he seems to have accepted all the ignorant talk of the sepoys who were with him as authoritative, and consequently has misleading descriptions of the figures as representing Krishna, Sita, &c. The figure which he calls Sita appears to be the small Buddha over the door; and the whole building appears to have been purely Buddhist.

The principal group of temples at Brambanan is or has been that of Loro Jongran. They are so utterly ruined that, even when very near them, you scarcely make out anything but great cairns of stones heaped together. It must have been a tremendous earthquake that produced such ruin. Closer examination shows among the chaos many fragments of rich mouldings and sculpture, and some of the basements, highly adorned with vases and festoons, are tolerably perfect. The largest pyramid of ruin you ascend to a height of some five and thirty feet, and find entrances to cells opening to the four cardinal points. The most remarkable circumstance about this ruin is that three of those cells contain very fine and purely Hindu figures. That to the north is an eight-armed goddess standing triumphantly on a dead buffalo and grasping in one of her four left arms the curly wig of a little monster. It is evidently the same subject that is represented in Moor's Hindu Pantheon, plate 35, and therein entitled "Durga or active Virtue slaying Maheshásura or Vice personified." This is the figure called by the Javanese Loro Jongran, and giving its name to the temple. It appears to be common among Javan remains, as you will find half a dozen in the plates to Raffles. To the west is Ganesha with his elephant head; and to the south a fine Jupiter-like bearded Siva with the trident.* The fourth entrance was obstructed by fallen stone, and I was too tired to attempt to crawl in. It is to the east, and probably was the entrance to a central chamber. From the height at which these cells stand they must evidently have formed an upper story of the temple. They are carved on great slabs standing against the wall without being attached to it, and I have some doubts if they are the original occupants. The cells otherwise seem exactly parallel to those of the cruciform Buddhist temples already described, and to which class nearly all the other Brambanan temples appear to belong. These are, however, the most ancient, as we may guess from their utter ruin. The other and more perfect temples cannot have been standing when the tremendous earthquake occurred which rattled these down into such a chaos. They may therefore have been the remains of a more ancient Brahminical sanctuary, as we know from the travels of Fahian that in his time (the beginning of the 5th century) Brahmins existed in

* There is an engraving of this in Crawford. *Indian Arch.* II. pl. 27.

Java, but Buddhism did not.* I do not take up more time with these, as there is a full description of them inserted in Raffles.

The only other group of temples that I will notice is that called *Chandi Sewu*, or the Thousand Temples, also described in Raffles. The group consists of one large central cruciform temple, as usual, with three blind porches and a fourth on the east giving access to the interior. But this is surrounded by four successive squares of small cells or temples, the outer square of which is upwards of 500 feet in the side. Many of these small cells are obliterated, and without more time than I had it would be difficult to say accurately their original number. A plan however is given in Raffles, which shows that the inner square has 8 temples to the side, the next has 12, and the two outer squares 20 and 22 respectively. I note this, because I suppose its accuracy may be assumed, and because its discrepancy from my own notes shows how apt a hurried notice in such matters is to err, even when there is a desire to be accurate.† My notes mention only 3 squares, containing respectively 8, 12 and 24 temples to the side, and I took some pains to allow correctly, by pacing, for the intervals where numerous temples were obliterated. However, I am amused to find that a man who probably had no such plea of haste as I, and is an observer by profession, Dr. F. Junghuhn, the author of the chief physical account of Java, in a paper on the same subject as my own, declares that there are 176 in the 4 squares, respectively 28, 36, 52, and 60. The whole number will be, according to Raffles's plan, in the four squares 240, besides four pairs placed intermediately between the 2d and 3d squares and flanking the avenues of approach.

The central temple is greatly shattered, and the image (a great Buddha I doubt not‡) which it contained, is gone. It stands with its porches on a terrace slightly elevated. There are no figures

* "On fut ainsi pendant quatre-vingt-dix jours ; alors on arriva à un royaume nommé *Yepho-thi*. Les hérétiques et les Brahmanes y sont en grand nombre, il n'y est pas question de la loi de Foe."—*Relation des Royaumes Bouddhiques*, 360.

† I may apologize for such inaccuracy by the fact that I was only recovering from a long illness, and was incapable of exertion in a hot sun.

‡ What Crawford says in speaking of this is misleading: "Each of the smaller temples had contained a figure of Buddha, and the great central one, consisting of several apartments, figures of the principal objects of worship, which, in every case that I have had an opportunity of examining, have consisted of the destroying power of the Hindu triad or some of his family." The central temple of *Chandi Sewu* was empty then as it is now, and this merely states* a foregone (and I believe quite mistaken) conclusion.

* Indian Archipelago, II. 196.

sculptured upon it, the decorations apparently having been panels of diaper work chiefly. I give a sketch of the beautifully executed doorway, chiefly on account of the singular ornament at the lower angle of the door-frame, representing what I must call for shortness an arabesque sea monster, and exactly similar to a constant ornament over the openings of the great Pagán temples on the Irawadi. (See Fig. 8). It is found also in Southern India. The small cells or chapels are each about 10 or 11 feet square. Their walls are carved with mythological figures in bas-relief, and each has been crowned by a small dagoba of the genuine Buddhist pattern. They all open outward, except the 3d row which stands back to back with the outer row,* and each has contained a cross-legged Buddha, of which some remain. There are groups of modern temples about Calcutta and Burdwan, somewhat similar in general arrangement. Mr. Fergusson appears to doubt whether he should not class this as a Jain temple.

I know little about Jains, but will answer for it that any Burmese would find himself at home in it as a monument of unmistakeable Buddhism.

Guarding the outer end of the avenue, by which we approached, are two gigantic warders, standing or rather kneeling, about 9 feet in height, with club grasped in the right hand, and a snake which twists round the body grasped in the left, with crisped hair and great staring eyeballs; also closely resembling the similar figures in marble and in stucco which are so common in Burma. (Fig. 9.)

The central temple is apparently that which is represented in the plates to Raffles† as the “Great Temple at Brambanan,” whilst one of the cells is represented,‡ as “one of the smaller temples at Brambanan.” It strikes me, however, that they are both very inaccurate, and the elaborate restoration of the great temple which is given in Pl. 40 is, I have no hesitation in saying, preposterously improbable.

In conclusion, as it is a point of some interest, I may note that Mr. Crawford says,§ that, though the interior vault of the temples is a false one, “the builders of Brambanan had possessed the art of turning an elliptical arch and vault, for the entrances or doorways are all arched, and the roofs all vaulted.” I think this is another instance

* This from Raffles's plate.

† 2d edition, Pl. 39.

‡ Pl. 41.

§ History of Indian Archipelago, II. 196.

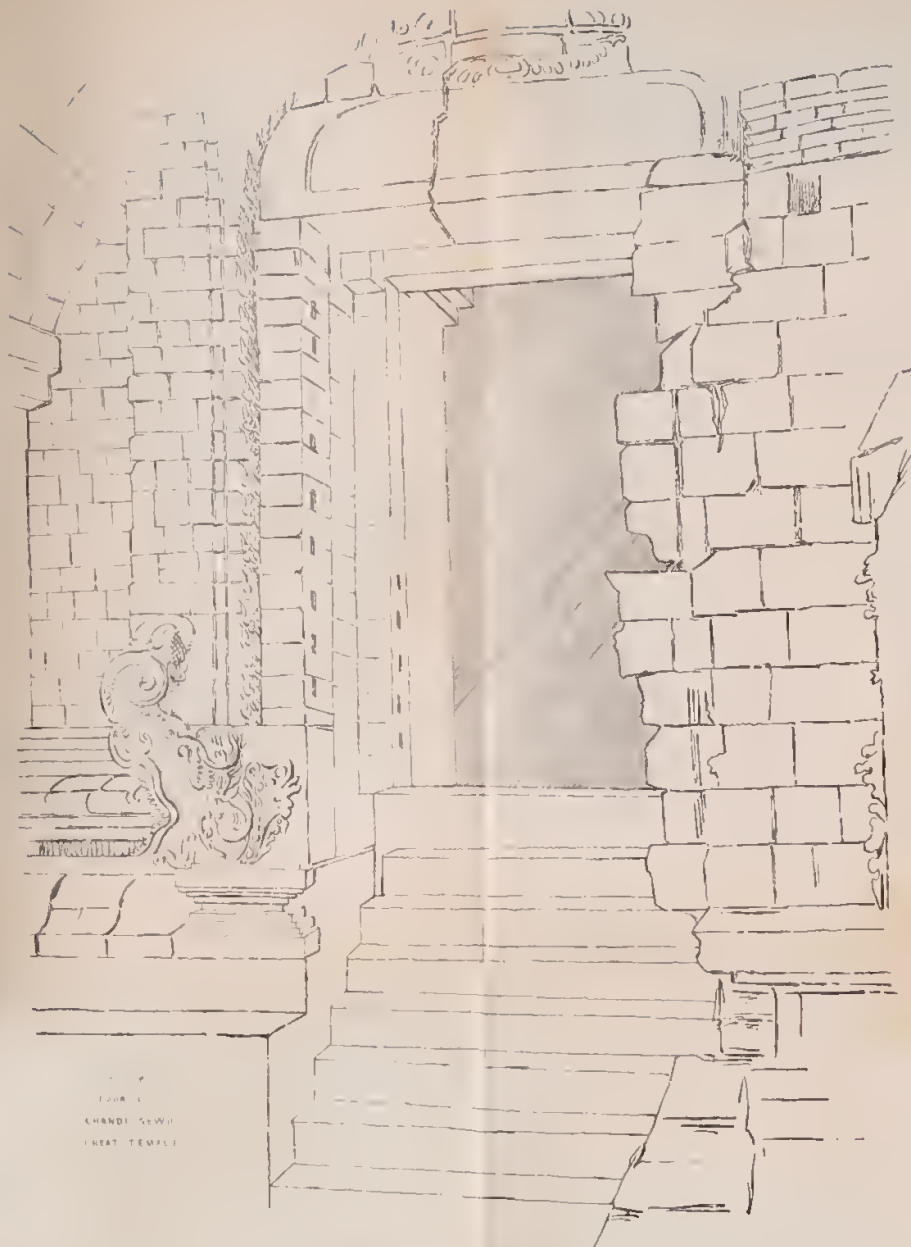


FIGURE 1
KHANDI SEWU
GREAT TEMPLE



FIG. 9.

COLOSSAL WARDER

AT CHANDI SEWU.

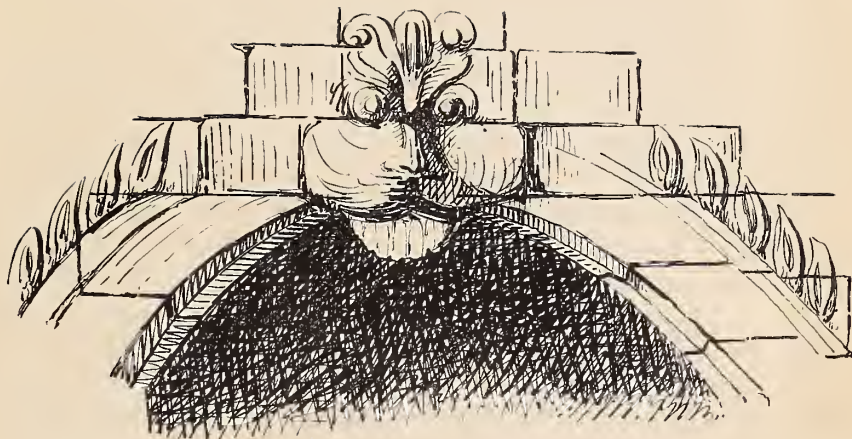


FIG. 10.



FIG. 11

of incorrect observation in a man of distinguished sagacity and general accuracy. I certainly know that it is a mistake to say *all*, for not one arch or vault properly so-called could I discover in the temples we visited. All were formed on the same *corbelling* principle that I have already spoken of, and I suspect that there *are* none otherwise formed. The nearest approach to such a construction that I saw was in the very curious two-storied building of which Raffles (Pl. 29) gives an indifferent plate, but which I will not take up your time in describing. In some of the apertures of this, there is a sort of sham key-stone found, but it is only a sham, for it really rests on corbelled projections (See Figs. 10, and 11.) Exactly the same approach to the arch is to be seen in the arcades about the Kootub, as if the builders had heard an arch described, or had seen one, but could not remember how to imitate it. This may be seen very plainly in Mr. Beato's well-known photographs of the Delhi remains.

In conclusion, it may be asked, what is the object of this paper? as, with the exception of the temple at Mundôt, most of the particulars must have been given by previous English writers. Well, here is an object.

In a paper which the greatest living authority on Buddhist, and on all ancient Indian architecture, Mr. Fergusson, was kind enough to attach to my description of the temples at Pagán on the Irawadi, he pointed out that that account opened a new chapter in our knowledge of Buddhist architecture. In India Buddhist remains take either the form of the Tope, of the Chaitya Hall (as he calls it) or basilica, or of the Vihára or monastery. But purely *image temples* were not known, unless you went so far north as Cashmere and the Salt Range of the Punjab; and the Buddhist character of these was doubted from the very fact of their being such mere *temples*. The Pagán buildings were such, and there could be no question about *their* Buddhism. Now, here in Java we have exactly similar temples, and I believe those which I have described, except perhaps the ruined piles of Loro Jongran, as certainly and unmistakeably Buddhist. But not only so. The general characters also of those temples, in Java and in Burma, have a close resemblance as well as the detail of their ornaments. The ornaments of both are of Indian origin; the form and style of both are as near as could be* in the difference of

* With certain remarkable exceptions.

material, one of brick stuccoed, the other of stone elaborately wrought. And yet of this form we find no type any where in India that I know of; the nearest being those Cashmere temples, but altogether different in their style and ornamentation.* They *must* have had a common original. Where was it? It is impossible to suppose that Buddhists in India were familiar with certain styles of building, and when emigrating, or driven forth, to two very different quarters of the further East, developed a new style and that substantially the same in each case. The natural and general belief is that the emigrations from India to Java took place from the coast of Kalinga and Orissa, and the name of Kling, given by the Malays to the Indians among them, confirms this notion. But there is no resemblance whatever in the plan of these edifices to the great temples of that coast, such as Bhobaneswar, Juggurnath and Kanarak. Raffles has a tradition of connexion with Guzerat; and it is possible that in Western India the original type may be found. I have never seen any drawing of the temple of Somnath except a very coarse one in the Society's Journal, and in that there are some remarkable traces distinguishable of the same style. I am not able to go a step in solving the problem, but I think I show that there is a problem to solve—if there were but anybody now-a-days among us who cared about such problems!†

P. S.—Though the matter has no relation to the subject of the preceding paper except as being connected with Java, it may be interesting, with reference to the late discoveries of stone celts in Central India, which formed the subject of a communication from Mr. H. P. Lemesurier some time ago, to mention a very fine collection of celts which I saw in Java.

The possessor was Mr. Kinder Van Camarecq, the Resident of the province of Bagelén, in the south of the Island. His collection of stone weapons numbered some 200 specimens, found in all parts of

* The general period of the Javanese Buddhist temples as stated by Crawfurd (Brambanan 1266-1296; Boro Bodor 1338) is not very different from that of the great temples at Pagán (1066-1200).

† The roughness of the drawings supplied in illustration of this paper requires apology. I have had to prepare them under a great pressure of other work, in winding up my Indian service, and amid the duties of a laborious office.



FIG. 15.

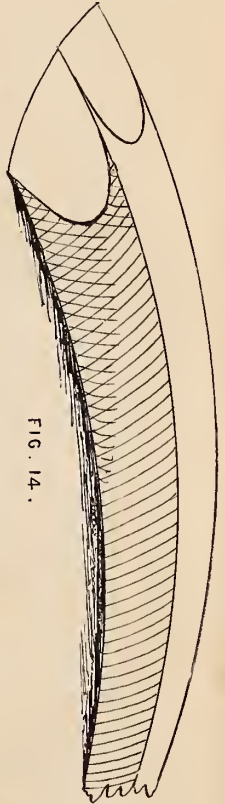


FIG. 14.

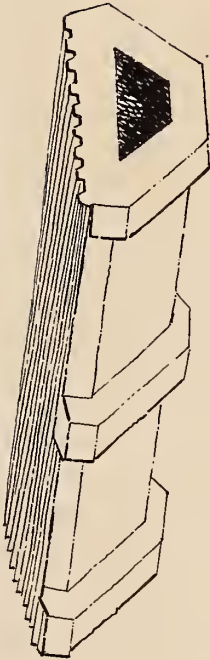


FIG. 16.



SECTION



the Island, but chiefly in the west. They far surpassed anything I have seen in my limited experience. Some of the hatchet-like weapons were fully ten inches long, beautifully finished and polished. There were also examples of spear-heads and axes in an unfinished state, roughed out with conchoidal fractures, very like the representations of those articles which have lately made such a stir in Europe, as bearing on the antiquity of man. The most curious was the weapon represented (in Fig. 14) of which there were several examples beautifully finished, even the lines marking the bevil on each side being curves of perfect symmetry. The use of this weapon is a problem, as well as the question how a people ignorant of metal tools could arrive at such perfect workmanship.

It is worth mentioning that in every instance the back end of the weapon was left rough and unwrought.

Mr. Kinder Van Camarecq's collection contained many bronzes and other objects of the greatest interest, and some specimens of wretched forgeries of bronzes at which the Javanese try their hands to take in strangers. I will only mention two of the articles in his collection besides the celts. One was a small bell decorated in the usual Buddhist style, but the handle of which by some strange chance was formed into a genuine Iona cross.* The other was a very curious implement of some white metal, the use of which is unknown. It is shown in Fig. 16. It is 5 or 6 inches long, perforated throughout, and the bottom furrowed from end to end by parallel grooves. The natives have no idea of its use, but it is said to have some distant resemblance to a tool used in Java to polish the paper of the country.

* I regret that I have lost my sketch of this curious bell. That given in Fig. 15 is from recollection.

*The Trigonometrical Survey of India, (Communicated by Major
J. T. WALKER.)*

The following is the first of a Series of papers on matters of general interest connected with the Trigonometrical Survey of India, which it is proposed to extract from the manuscript volumes of the Survey, for publication in the Journal of the Asiatic Society. It is taken from the Introduction to the General Report of the North-East Longitudinal Series of triangles (G. T. Survey, Vol. XV.) drawn up under the Superintendence of Col. Sir Andrew Waugh, when Surveyor General of India, by J. B. N. Hennessey, Esq., 1st Assistant G. T. Survey.

The North-East Longitudinal Series derives its name from the circumstance of its following the course of the corresponding boundary of British India. It extends from the valley of the Dehra Dhoon to Purneah, connecting the northern extremities of the Calcutta Meridional Series and the celebrated Great Arc, measured by Cols. Lambton and Everest, on the meridian of Cape Comorin. Its object was to form the most direct connexion practicable between two base lines of verification, one measured in Dehra Dhoon, the other in Purneah. Thus it serves to close and verify the Meridional Series, 10 in number, which lie between the Great Arc and Calcutta Meridional Series and emanate from the longitudinal triangulation, connecting the Calcutta base with the Seronj base on the Great Arc in Central India.

This is the general system followed in the triangulation of India, which thus resembles in outline the form of a gridiron. At each angle of the gridiron, a base line is measured. The outer series form the frame-work on which the inner ones depend, and are especially valuable for the data they contribute towards the determination of the great problem of geodesy, the accurate measurement of the figure of the earth. By restricting the meridional, or inner series, to distances of 60 to 100 miles apart, all the necessary data for topographical operations are obtained, at a moiety of the cost that would be incurred in throwing a net work of triangles over the whole of India after the manner of European surveys, which require greater detail than is necessary in this country.

The North East Longitudinal Series was originally intended by Col. now Sir George Everest, C. B. to have been carried along the mountains on the British frontier. But this design was abandoned in consequence of the refusal of the Nepalese Government to allow the operations to enter their territories. Consequently, after crossing the hills of Kumaon and Garhwal, the triangles were brought down into the Terai near Bareilly, from which point they lie almost continuously in the marshy and deadly tracts which fringe the Himalaya mountains. Here Lt. Reginald Walker, a very able and promising young officer, fell a victim to jungle fever. Being alone and without medical assistance, he strove to reach Darjeeling, but was found dead in his dhooly, on its arrival at that station. Of the native subordinates, a large percentage, one year no less than a fourth, died of jungle fever. Sickness was frequent and severe. On more than one occasion a whole party had to be literally carried into the nearest station for medical assistance. The completion of the major, and more difficult portion of the triangulation is due to the ability, courage and perseverance displayed by Mr. George Logan, who died three years afterwards, from disease first contracted in the Terai during these operations.

Owing to the proximity of the triangulation to the mountain ranges, the whole of the chief peaks were seen from the principal trigonometrical stations, and fixed by measurements with the first class instruments employed for the mutual observations between the stations themselves. These are called the "Principal Observations," for on them, the accuracy and value of the series, as a whole, depend. They are therefore taken with the largest and most powerful theodolites, which are expressly constructed for the Indian Survey, and furnished with micrometer microscopes, instead of verniers, for reading the graduations.

The employment of such instruments in secondary operations has the advantage of enabling the observer to attain as great accuracy by a few observations as by many with second class instruments, thus time is saved and reliable measurements of the higher mountains can be taken during the short intervals when their usually cloud-capped summits are unfurled to view.

The following extracts are chiefly relative to the computations for determining the heights and positions of the principal mountains.

A table of the resulting elements is given, together with a memorandum specifying the mountains which could be identified as having been previously observed by other surveyors.

J. T. W.

Of the Secondary Mountain Triangulation.

57. The magnitude of the triangles for determining the positions of the hill peaks, and other unavoidable peculiarities attendant on the operations in general, have necessitated some few departures from ordinary precedents in the performance of the required calculations. These may be briefly noticed.

58. *Identification.*—The primary difficulty which the computer meets with is, in the identification of the numerous points whose positions have been determined. Observed by different persons, after long intervals or from different points of view under the disadvantages of altered aspects, the same hill will be found noted in the angle books under various characteristics. For instance, Mont Everest was called *v* by Colonel Waugh, *n* by Mr. Nicolson and *l* by Mr. Armstrong, while the peak XXXVIII. is named n^2 at one station of observation, n^3 at another and “I west peak” at a third, by the same observer. This plurality of characteristics, under the circumstances, is clearly unavoidable. It remains to state how the required identification was effected. The principal series was first carefully projected on a scale of 4 miles to the inch, and the several rays emanating from stations of observation were next exactly drawn. The intersection of these rays, assisted by the characteristics forthcoming in the angle books, more or less distinctly defined the points sought for. This was treated as an approximate identification, whereby the bases required from the principal series and experimental triangles to be computed became known. The former were then obtained in the ordinary way, by means of the contained angle and logfeet of the including sides, for which computation the following well known formula was found useful,

$$\tan \frac{1}{2} (A - B) = \tan (45 - Q) \cot \frac{C}{2}$$

$$\text{wherein } \tan Q = \frac{b}{a}$$

With the bases so found, the triangles were, as implied, first experimentally computed, an accordance of the numerous common sides demonstrating an identity of the several characteristic letters. In those cases where any want of demonstration existed, the point was rejected.

59. Such identification imposes no *experimental* calculation when the points observed are clearly isolated from each other. For instance XI. or Jannoo, XIII. and Mont Everest or XV. were readily identified by the angular projection. But as in the cases of XLIII., XLIV. and XLV. it is evident that nothing short of actual computation will separate the points in the group. The numerous experimental triangles by which non-identity was proved, as also the triangles for bases are not shown in this volume. The last mentioned triangles were about 450 in number, and the former also involved considerable labour.

60. *Spheroidal excess*.—The two formulæ for spheroidal excess, viz., that involving two sides and the contained angle, and the other in terms of the base and the three angles, were respectively employed in the triangles for bases and in those to Himalayan points. In the latter case however, the spherical angle opposite the base c could, in the first instance, be only roughly found from the equation $\pi - (A + B) = C$, wherein A and B are spherical angles. Whence C was taken too small by the whole spheroidal excess. Now, as this latter frequently exceeds 100 seconds, it was sometimes required to find the excess approximately, next to correct the angle C , and then with this value of C , to recompute the excess finally. In other respects the Triangles were calculated as usually done.

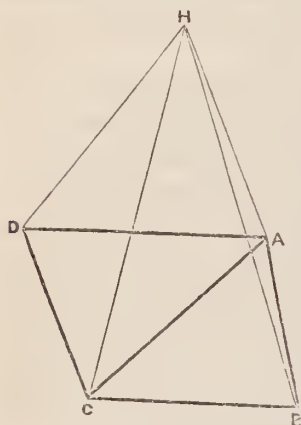
61. *Synopsis of sides*.—The values of the sides in feet thus obtained were recorded in the form of a synopsis, and this paper was completed by finding the logarithm to the mean of these values, as well as the miles corresponding to the same.

62. *Latitude and Longitude*.—The computer was now prepared to deduce the required latitudes and longitudes, which was done in this wise. With the latitude and longitude of any station of observation A , the azimuth thereat of point n , and the mean distance from the synopsis of sides A to n , the latitude and longitude of n from A were found. Similarly values of latitude and longitude were obtained from the other stations of observation, and a mean of all these values was taken as *the* latitude and longitude of n .

63. The computation of heights was performed in the usual manner, until the estimation of terrestrial refraction was arrived at. The process adopted for this purpose may be briefly stated thus.

64. *Estimation of Terrestrial Refraction.*—If the contained arc be represented by c , and terrestrial refraction by r , then $\frac{r}{c} = f$

the factor, or “decimals of contained arc.” Whereby if f be given, then $r = cf$ may be computed. From want of a more accurate method of determination, it is usual to adopt that mean value of f , for finding the height of an inaccessible point, which may be forthcoming from the reciprocal observations at visited stations. For instance if A, B, C, D, be points of the last mentioned order, then

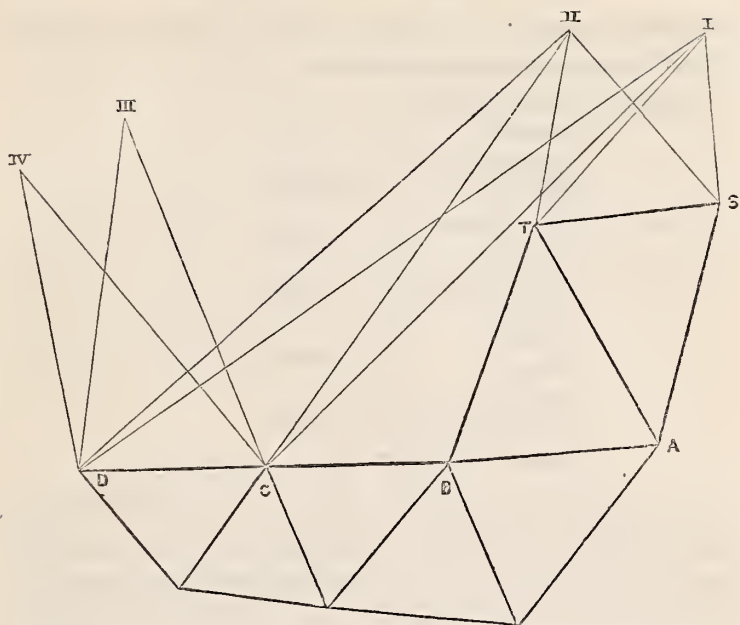


in the ordinary course of computation, there will result three values of f at A, as many at C, and two values each at B and D. The mean value of f at each station would therefore be adopted in computing the height of an inaccessible point H. To take a real case (at random). The values of f at Batwya T. S. (1) are $+0.011$, -0.017 , $+0.065$ and $+0.013$. Wherein the greatest difference is no less than .082 of the contained arc. On the other hand, the values of f at hill stations of observation, will always be

found accordant within far smaller limits.

65. The conclusion drawn from the foregoing is evidently this. That at plain stations, and when the object observed is placed on an ordinary tower, the value of f determined from any given ray A B, is not necessarily applicable to any other ray A C. Whereas all rays of light at hill stations from terrestrial points appear to be nearly equally refracted. These phenomena are clearly traceable to local causes.

66. But of the two mean values of f , one obtained at a mountain station of observation, and another deduced in the plains, it is evident that the former is more trustworthy, and hence it appeared desirable, that the latter should be obtained in terms of the former.



67. *Process of estimating terrestrial refraction.*—Let A, B, C, D, (vide figure) be plain stations, T and S stations on the Sub-Himalayas; and I. to IV. inaccessible points on the range of perpetual snows. Let the values of f at T and S equal respectively f and f_s . We may deduce from these, two trustworthy values of the heights of I. and II. Calling this mean height of I $= I_m$, and remembering that we have elevation (E) at C of I, as also the contained arc for C I $= (c)$ given, it is clear that the values of f at C, corresponding to I_m may be found. Let this value $= f$. Proceeding in the same manner we shall find $f_c = \frac{f^1 + f^2 + \dots + f_n}{n}$

Similarly f_D &c., may be obtained, and with f_c, f_D &c., may be computed III_m, IV_m &c., from which again in turn may be found the values of f for the other plain stations from which III, IV &c., have been observed. By this process the computed values of f are determined nearly in terms of f_t and f_s , errors of observation not being taken into account. It remains to mention how f_s and f_t were obtained.

68. The computations originate from Senechal and Tonglo hill stations, at which stations, the following mean value of f was in the

first instance adopted. The selection has been made to the exclusion of those values obtained from short sides.

Deduction.—Doom Dangi	}	$f = .07617.$
Senchal		
Thakoorganj	}	$f = .07636.$
Senchal		
Doom Dangi	}	$f = .07915.$
Tonglo		
Thakoorganj	}	$f = .07849.$
Tonglo		
Senchal	}	$f = .06201.$
Tonglo		
Tonglo	}	$f = .08043.$
Darjeeling		
Mean		$f = .0744. = \frac{1}{1\frac{1}{3}.2}$ nearly.

69. With this value of f , the heights from Senchal and Tonglo were computed, and the mean of these values, as also the differences between each value and its mean, were next found. The heights were now corrected in such wise, that when the heights deduced from Senchal are compared with the mean heights already mentioned, the greatest + and — differences should be numerically equal. The same process being gone through at Tonglo, H. S., there resulted the mean values of f , which have been employed for that station and for Senchal. These values will be found recorded in the heights herein given, and it will also be found, that they have been employed for all heights of the *Sub-Himalayas* observed at Senchal and Tonglo hill stations.

70. It may be useful to remember, that if there be two points A and B observed from O, whose heights respectively are h_a and h_b determined by a certain value of f at $O = f_o$. Also if d_a equal corrected geodotic distance O to A, and $d_b = O$ B. Then if f_o vary, so that h_a (the height of A computed from O) changes by $\pm \delta_a$, and h_b by $\pm \delta_b$, so will $\pm \frac{\delta_b}{\delta_a} \propto \frac{d_b^2}{d_a^2}$. Hence should the foregoing method for finding the value of f at plain stations in terms of the observed value at hill stations, be hereafter ever adopted, it will be found advantageous to construct a table of the squares of the distances in miles, for this purpose.

71. The general principle of procedure is now apparent. But as

will be remarked, the process described is only applicable so long as a continuous connection is preserved, between the stations of observation and the points observed. In the observations under consideration, there occurs a blank space between points LII. and LIII whence the method described was no longer applicable beyond the former point. But it fortunately happens that LIII. and succeeding points are observed from hill stations, whereat, as already mentioned, the values of f are liable to but trifling variation. The mean value of f in these cases was deduced in the ordinary way as mentioned at para. 64. The following is an example of this method.

At Jagesar, H. S. the values of

$$(f) \text{ are } \begin{cases} .04485. \\ .04528. \\ .04876. \end{cases}$$

Mean f adopted at Jagesar, H. S. .04630.

72. *Values of f tabulated.*—The values of f employed in these calculations may be tabulated thus.

Height above sea level.	Names of Stations.				f .	Denominator of vulgar frac- tion.
Feet.						
8610	Senehal, H. S.	...	...	...	.0815	12.2657
319	Doom Dangi, T. S.	...	...	...	.0744	13.4374
7169	Darjeeling, H. S.	...	...	...	.0885	11.2945
6884	Birch Hill, S.	...	...	...	.0864	11.5737
273	Thakoorganj, T. S.	...	...	...	.0775	12.9066
10084	Tonglo, H. S.	...	...	...	.0711	14.0550
251	Banderjoola, T. S.	...	...	...	.0811	12.3317
237	Menai, T. S.	...	...	...	.0753	13.2852
242	Baisi, T. S.	...	...	...	.0743	13.4677
226	Harpoor, T. S.	...	...	...	.0727	13.7637
242	Ladnia, T. S.	...	...	...	.0746	13.4025
263	Janjpati, T. S.	...	...	...	.0731	13.6705
254	Mirzapoor, T. S.	...	...	...	.0736	13.5775
231	Jirol, T. S.	...	...	...	.0735	13.6008
282	Sinereah, T. S.	...	...	...	.0753	13.2797
268	Boolakipoor, T. S.	...	...	...	.0728	13.7429
259	Batwya, T. S.	...	...	...	.0714	14.0093
320	Torharwa, T. S.	...	...	...	.0847	11.8002
357	Morairi, T. S.	...	...	...	.0791	12.6429
353	Soopoor, T. S.	...	...	...	.0813	12.3031
355	Banarsi, T. S.	...	...	...	.0937	10.6681
344	Saonbarsa, T. S.	...	...	...	.0870	11.4928
350	Bharmi, T. S.	...	...	...	.0787	12.7054
329	Poorena, T. S.	...	...	...	.0805	12.4154
358	Ghaos, T. S.	...	...	...	.0875	11.4292

Height above sea level.	Names of Stations.				f .	Denominator of vulgar frac- tion.
412	Toolsipoor, T. S.	...	...	...	.0763	13.1058
478	Anarkali, T. S.	...	...	..	.0744	13.4432
7732	Jagesar, H. S.	...	...	...	.0463	21.5983
6994	Birond, H. S.	...	...	...	.0652	15.3374
10101	Khankra, H. S.	...	...	...	.0579	17.2652
8526	Soonchalia, H. S.	...	...	..	.0624	16.0256
6946	Ghoongti, H. S.	...	...	...	.0652	15.3374
7079	Ranigarh, H. S.	...	...	...	.0687	14.5624
5675	Mabegarh, H. S.	...	...	...	.0750	13.3333
7371	Ghandial, H. S.	...	...	..	.0698	14.3266
12541	Kiderkanta, H. S.	...	...	..	.0480	20.8377
9946	Nagtiba, H. S.	...	...	...	.0521	19.1902
2970	Dhoiwala, H. S.	...	...	...	.0628	15.9363
7454	Banog, H. S.	...	...	...	.0612	16.3479
3161	Amsot, H. S.	...	...	...	.0565	17.6897
11997	Chur, H. S.	...	...	..	.0530	18.8857

73. *Conclusion deduced from foregoing table.*—Now since $\text{Sin} \angle$ incidence

————— = $1 + m$ in the mean state of atmosphere and at $\text{Sin} \angle$ refraction

the level of the sea, and also, since the quantity m varies with the density of the atmosphere, so that when the density of the air is only the n th part of what it is at the level of the sea, the refractive power is

there only $1 + \frac{m}{n}$, it might have been expected from these tabulated

results that in the first instance, $f^a \frac{1}{\text{height of station of observation.}}$

No such law, however, is to be found unless the numerous exceptional cases be excluded to make a rule.

74. Wherefore it appears, that the law of variation in f due to variation in the density of the atmosphere, consequent on variation in height, is completely absorbed and lost sight of in the irregular variations, arising from local causes and also from the unavoidable imperfections of observation to points so ill-defined as the apices of snowy mountains.

75. Finally it is to be noticed that the foregoing method is acknowledged to be imperfect and unsatisfactory, but compared with the ordinary mode of finding f from reciprocal vertical observations,

it is believed that the values herein determined are a nearer approximation to the truth.

76. *Notices certain refinements not appreciable in these operations.*—In concluding the remarks on these computations, it may be interesting to notice certain refinements in calculation which have not been deemed applicable to these operations. For instance, the spheroidal excess and the contained arc might have been computed by more rigorous processes, but that the refinement would have been purely of an arithmetical nature. Again the formula for latitude and longitude has not been employed beyond its fourth term, because the remaining terms are difficult of arithmetical expression and would besides have given no results commensurate with the labour necessary to compute them. Similarly the chord correction is neglected in these heights, amounting as it does in the extreme case of Menai to Mont Everest, or XV, to no more than a foot.

77. There remains to notice one other correction also herein not taken into account, of which it may be remarked, that, under existing circumstances it would partially cancel the chord correction, if both these refinements were introduced. This correction may be stated thus.

78. Ordinarily, in the formula for computing difference of height, it is sufficiently accurate to assume the given arc (or distance) to belong to a circle, whereas in reality, it is a portion of an ellipse. If the correction due to this assumption $= x b$, then it can be shown that $x b = (v_a - \cos \lambda_b K) - (v_b - \cos \lambda_a K)$, wherein $K = \left\{ v_b \sin \lambda_b - v_a \sin \lambda_a + \frac{N}{M} [(M + v_a \cos \lambda_a)(M - v_a \cos \lambda_a)]^{\frac{1}{2}} - \frac{N}{M} [(M + v_a \cos \lambda_b)(M - v_b \cos \lambda_b)]^{\frac{1}{2}} \right\} \operatorname{Cosec} \delta \lambda$.

It is sufficient to remark in this place, that in the extreme case of Menai, T. S. to Mont Everest or XV. the correction $x b =$ only 0.3 of a foot.

79. *Magnitude of these operations illustrated.*—Lastly it may be interesting to notice, that the area of the largest triangle to points on the Himalaya mountains (No. 297) is about 1706 square miles, its spheroidal excess being 106". The longest side, Anarkali, T. S. to XXXIX. is equal to 151 miles, and its corresponding contained arc

is $7886'' =$ about the $\frac{1}{164}$ *th* part of a circle described around our planet. And if the principal and mountain operations of the North East longitudinal series be taken together, they will be found to cover somewhat more than the $\frac{1}{3182}$ portion of the entire earth's surface; or, taking the land at half the expanse of water, about 1061 such series would cover every portion of the former.

80. *Accuracy discussed.*—And with regard to the accuracy of the mountain results, it is evident that the same estimate cannot equally apply to a peak with a sharp conical apex, and to a mountain whose summit represents a saddle back or an even bluff. Prominent amongst the accurately determined points are XIII. Mont Everest or XV. and XLII. or Dhoulagiri, both in respect to geographical position and height above sea level, but though such points are far more numerous than those which exhibit comparatively large differences between the several values composing their mean results, yet it is suggested that the synopsis of latitudes and longitudes and the paper of heights should be consulted before adopting a point, if necessary for rigorous purposes.

81. *The same estimated.*—It is estimated, that on an average, the points on the Himalaya mountains are correct in latitude to $\frac{1}{4}$ of a second and in longitude to about $\frac{1}{2}$ that quantity. The heights are probably true to 10 feet, but this last estimate must be qualified by the consideration that they are all too low from the deflection due to mountain attraction.

82. *Why mountain attraction was not determined.*—In the original design of these operations, it was intended that the deflections in azimuth and in the meridian due to the attraction of the Himalaya mountains should be estimated along the principal series by suitable celestial observations, but this intention was relinquished owing to the considerable delay it entailed.

84. *Area and cost.*—The area covered by these principal and secondary operations amounts to about 61,815 square miles. But the piecemeal nature of work, the long intervals which frequently occur, and the unavoidable employment of the North East longitudinal series partly on other duties, make it a difficult and unsatisfactory process to attempt finding the cost of these operations. As an approximation, however, it may be stated that this cost does not exceed Rupees 2 per square mile.

Table of characteristic marks, for the snowy peaks of the North East longitudinal series, great Trigonometrical Survey of India, and identification with other authorities.

Final Numeral and Name adopted.	Country.	Identification with other authorities.
I. or Choomlari, ..	Tibet.	
I. or Gipmochi, ..	Bhotan.	
I. or Porohoonri, ..	Tibet & Sikkim.	Named by Dr. Hooker, Donkiah.
V. or Choomoonko, ..	do.	Named by Dr. Campbell, Chola.
.. or Black rock, ..	do.	Named by Dr. Campbell, Gnaream.
I. or Narsing, ..	Sikkim.	
II. or Pandim, ..	do.	
III. or Kanchinjinga, ..	do.	
X. or Kanchinjinga, ..	Nepal & Sikkim.	
.. or Kabroo, ..	do.	
I. or Jannoo, ..	Nepal.	
II.	do.	
III.	do.	
IV.	do.	
V. or Mont Everest, ..	do.	
VI.	do.	
VII.	do.	Colonel Crawford's A.
VIII.	do.	Colonel Crawford's B.
IX.	do.	
X.	do.	Colonel Crawford's C.
XI.	do.	Colonel Crawford's D.
XII.	do.	Colonel Crawford's F.
XIII.	do.	
XIV.	do.	
XV. or Dayabang, ..	do.	Colonel Crawford's L. or Dayabang.
XVI.	do.	
XVII.	do.	
XVIII.	do.	
XIX.	do.	
XX.	do.	
XXI.	do.	
XXII.	do.	
XXIII.	do.	
XXIV.	do.	
XXV.	do.	
XXVI.	do.	
XXVII.	do.	
XXVIII.	do.	
XXIX.	do.	
L.	do.	
LI.	do.	
LII. or Dhoulagiri, ..	do.	Capt. Webb's Dhawalagiri, (Dhoulagiri.)
LIII.	do.	
LIV.	do.	
LV.	do.	
LVI.	do.	
LVII.	do.	
LVIII.	do.	
LIX.	do.	

Final Numeral and Name adopted.	Country.	Identification with other authorities.
J.	Nepal.	
LI.	do.	
LII.	do.	
LIII. or Api, ..	do.	Capt. Webb's XXIII. (Api.)
LIV. or Panchachuti,	Kumaon.	Capt. Webb's XIX.
LV.	do.	Capt. Webb's XVIII.
LVI. or Nandakut, ..	do.	Capt. Webb's XV.
LVII.	do.	
LVIII. or Nandadebi,	Kumaon & British Gurhwal.	Capt. Hodgson and Lt. Herbert's A.
LIX.		No. 2; Capt. Webb's XIV.
LX. or (East) Trisool,	British Gurhwal.	Capt. Webb's XIII. (East) Trisool.
LXI.	Kumaon and British Gurhwal.	Capt. Hodgson and Lt. Herbert's P or A. No. 3, Capt. Webb's N.
LXII. or (West) Trisool.	British Gurhwal.	Capt. Hodgson and Lt. Herbert's A. No. 1; Capt. Webb's XII. or West Trisool.
LXIII.	do.	
LXIV. or Nandakna, ..	} do.	Capt. Webb's XI. (Nandakna.)
LXV. or Nandakna, ..		
LXVI.	do.	Capt. Webb's K.
LXVII. or Kamet or Ibi Gamin, ..	Tibet and British Gurhwal.	Capt. R. Strachey's Kamet, named by* Messrs. Schlagintweit Ibi Gamin.
LXVIII. or Nilakanta,	British Gurhwal.	Capt. Webb's IX. (Nilakanta.)
LXIX. or Badrinath, ..	do.	Capt. Hodgson and Lt. Herbert's B. Middle peak Badrinath, Capt. Webb's VIII.
LXX.	do.	Capt. Webb's VI.
LXXI.	do.	Capt. Webb's G.
LXXII. or Kedarnath,	Gurhwal and British Gurhwal.	Capt. Hodgson and Lt. Herbert's D. or Kedarnath, Capt. Webb's III.
LXXIII.		Mr. Keelan's a.
LXXIV. or Tharlasagar,	} Gurhwal.	Capt. Hodgson and Lt. Herbert's M. or Mont Moira, Capt. Webb's 1.
LXXV. or Jaouli, ..		Mr. Keelan's e.
LXXVI. or Bus Peak or Srikanta, ..	do.	Capt. Hodgson and Lt. Herbert's C. or Jaouli, Mr. Keelan's i.
LXXVII. or Banderpoonch, ..	do.	Capt. Hodgson and Lt. Herbert's G. or Srikanta. Mr. Keelan's d. Mr. Mulheran's I. or Srikanta. Mr. Dyer's Srikanta.
LXXVIII.	do.	Capt. Hodgson and Lt. Herbert's Great E. or Banderpoonch. Mr. Keelan's a. Mr. Dyer's l.
LXXIX. or Sargoroen,	do.	Capt. Hodgson and Lt. Herbert's H. Left peak.

* Capt. Strachey's Kamet, Lat. $30^{\circ} 55' 20''$ Long. $79^{\circ} 37' 55''$ Height. 25500
 LXVII. , 30 55 13 , 79 38 4 , 25373

ft.
 { Vide map
 of Kumaon
 and British
 Gurhwal.

NORTH-EAST LONGITUDINAL SERIES.

General Alphabetical List of Latitudes, Longitudes and Heights.

No.	Names of Places.	Latitudes.	Longitudes.	Heights above sea level.	District.	Remarks.
		° ' "	° ' "	feet.		
1309 (1)	Darjeeling Church, N. W. spire, ..	27 2 52	88 18 36	..	British Sikkim.	
1310 (1)	Darjeeling, Campbell's (Dr.) centre chimney, ..	27 2 23	88 18 32	..	Do.	
1209	Darjeeling, H. S., ..	27 2 49.65	88 18 40.76	7169	Darjeeling, British Sikkim.	
181	Kishanganj Rajah's Noubatkhana, ..	26 6 18	87 59 22			
650	Debi Patan Temple, ..	27 32 10	82 26 15			
841	Bhinga Fort, ..	27 41 49	81 58 52			
873	Akowna Temple, Golden Kalas in the centre of city, ..	27 31 56	82 0 45			
1193 (1)	Shahjehanpore Hakeem Maindees Koti, large 2-storied house, centre of stair-case, ..	27 53 54	79 58 12			
1194 (1)	Shahjehanpore, Magistrate's and Collector's Office, most northern skylight, ..	27 53 8	79 57 40			
1326 (1)	Landour Hospital, ..	30 27 19	78 8 50	7383	Landour Hills, N. of Dehra.	
1327	Landour Lalitba Hill Station, ..	30 27 30	78 8 32	7485	Do.	
1328 (1)	Landour Protestant Church, ..	30 27 40	78 8 16	7308	Do.	
1321 (1)	Masuri Camel's Back H. S., ..	30 27 36.41	78 6 58.71	7050	Do.	
1319 (1)	Masuri Library, top of S. E. corner, ..	30 27 35	78 6 23	6620	Do.	
1317 (1)	Masuri Himalaya Club top of westernmost chimney, ..	30 27 14	78 7 37	6789	Do.	
1220	Dehra Dhoon Observatory Station, ..	30 19 57.12	78 6 2.20	2310	Dehra Dhoon.	

NORTH-EAST LONGITUDINAL SERIES—(Continued.)

Points on the great Himalaya Ranges.

No.	Names of Places.	Latitudes.			Longitudes.			Heights above sea level.	District.	Remarks.
		°	'	"	°	'	"			
1223	I. or Choomalari,	27	49	42	89	18	43	feet.	Tibet.	
1224	II. or Gipmochi,	27	16	27	88	56	37	23914	Bhotan.	
1225	III. or Fowlooni,	27	56	57	88	53	5	14518	Tibet and Sikkim.	
1226	IV. or Choomoonko,	27	27	32	88	49	38	23186	Do.	
1227	V. or Black Rock,	27	34	11	88	48	39	17325	Do.	
1228	VI. or Narsing,	27	30	40	88	19	28	17572	Sikkim.	
1229	VII. or Pandim,	27	34	38	88	15	35	19116	Do.	
1230	VIII. or Kanchinjinga,	27	41	30	88	11	50	22017	Do.	
1231	IX. or ditto,	27	42	9	88	11	26	27815	Do.	
1232	X. or Kabroo,	27	36	30	88	9	15	28156	Nepal and Sikkim.	
1233	XI. or Jaunoo,	27	40	56	88	5	13	24015	Do.	
1235	XIII.	27	53	22	87	7	54	25304	Nepal.	
1236	XIV.	27	46	31	87	1	21	27799	Do.	
1237	XV. or Mont Everest,	27	59	17	86	58	6	24020	Do.	
1238	XVI.	27	45	20	86	51	56	29002	Do.	
1239	XVII.	27	45	16	86	36	57	22215	Do.	
1240	XVIII.	27	52	51	86	36	57	22826	Do.	
1241	XIX.	27	52	51	86	31	57	21987	Do.	
1242	XX.	27	57	52	86	28	32	23570	Do.	
1243	XXI.	27	57	29	86	22	42	23447	Do.	
1244	XXII.	28	7	41	86	9	8	19560	Do.	
1245	XXIII.	28	7	41	85	54	42	21853	Do.	
1246	XXIV.	28	10	25	85	49	21	26305	Do.	
1247	XXV. or Dayabang,	28	15	22	85	49	17	22891	Do.	
		28	15	22	85	33	35	23762	Do.	

1248	XXVI.	..	..	..	28	23	30	85	10	12	24313	Do.
1249	XXVII.	..	..	..	28	20	43	85	7	24	23313	Do.
1250	XXVIII.	..	..	..	28	26	3	84	41	0	25818	Do.
1251	XXIX.	..	..	..	28	30	12	84	36	34	25729	Do.
1252	XXX.	..	..	..	28	33	0	84	36	9	26680	Do.
1255	XXXIII.	..	..	..	28	29	23	84	13	56	22947	Do.
1256	XXXIV.	..	..	..	28	32	5	84	9	52	26069	Do.
1257	XXXV.	..	..	..	28	32	11	84	7	32	24718	Do.
1258	XXXVI.	..	..	..	28	35	3	84	1	57	24780	Do.
1259	XXXVII.	..	..	..	28	29	42	83	59	22	22964	Do.
1260	XXXVIII.	..	..	..	28	29	51	83	59	20	22986	Do.
1261	XXXIX.	..	..	..	28	35	44	83	51	46	26522	Do.
1262	XL.	..	..	..	28	31	5	83	50	55	23641	Do.
1263	XLI.	..	..	..	28	39	17	83	46	22	22471	Do.
1264	XLII. or Dhoulagiri,	..	..	..	28	41	48	83	32	9	26826	Do.
1265	XLIII.	..	..	..	28	45	45	83	25	52	25456	Do.
1266	XLIV.	..	..	..	28	45	13	83	25	12	25299	Do.
1267	XLV.	..	..	..	28	44	2	83	24	18	24912	Do.
1268	XLVI.	..	..	..	28	44	7	83	21	20	25095	Do.
1269	XLVII.	..	..	..	28	40	26	83	19	6	23565	Do.
1270	XLVIII.	..	..	..	28	43	54	83	15	9	24181	Do.
1271	XLIX.	..	..	..	28	44	52	83	11	18	23779	Do.
1272	L.	..	..	..	28	44	36	83	9	29	21727	Do.
1273	LI.	..	..	..	28	45	59	83	8	27	21472	Do.
1274	LII.	..	..	..	28	49	39	82	39	33	19415	Do.
1276	LIV. or Panchachuli,	..	..	..	30	12	51	80	28	9	22673	Kumaon.
1277	LV.	..	..	..	30	15	12	80	25	5	21471	Do.
1278	LVI. or Nandakut,	..	..	..	30	16	51	80	6	39	22538	Do.
1279	LVII.	..	..	..	30	21	58	80	2	21	24417	Do.
1280	LVIII. or Nanda Debi,	..	..	..	30	22	31	80	0	50	25661	Kumaon and British Gurhwal.
1281	LIX.	..	..	..	30	22	35	80	0	46	25587	Do.
1282	LX. or East Trisool,	..	..	..	30	16	14	79	54	51	22342	British Gurhwal.
1283	LXI.	..	..	..	30	30	56	79	54	31	23092	Kumaon and British Gurhwal.
1284	LXII. or West Trisool,	..	..	..	30	18	43	79	49	7	23382	British Gurhwal.

NORTH-EAST LONGITUDINAL SERIES—(Concluded.)

No.	Names of Places.	Latitudes.			Longitudes.			Heights above sea level.	District.	Remarks.
		°	'	"	°	'	"			
1285	LXIII.	30	22	9	79	45	40	feet. 19916	British Gurhwal.	
1286	LXIV. or Nandakun,	30	20	56	79	45	36	20722	Do.	
1287	LXV. or ditto,	30	20	57	79	45	35	20773	Do.	
1288	LXVI.	30	41	6	79	44	53	22093	Do.	
1289	LXVII. or Kamet or Ibi Gamini,	30	55	13	79	38	4	22373	Tibet and British Gurhwal.	
1290	LXVIII. or Nilakanta,	30	43	52	79	26	56	21661	British Gurhwal.	
1291	LXIX. or Badrinath,	30	44	16	79	19	20	23210	Do.	
1292	LXX.	30	43	22	79	17	52	22511	Do.	
1293	LXXI.	30	46	41	79	16	58	22317	Do.	
1294	LXXII. or Kedernath,	30	47	53	79	6	34	22790	Gurhwal & British Gurhwal.	
1295	LXXIII.	30	51	40	79	2	14	22582	Gurhwal.	
1296	LXXIV. or Tharlasagar,	30	51	41	79	2	13	22628	Do.	
1297	LXXV. or Jaouli,	30	51	18	78	53	53	21672	Do.	
1298	LXXVI. or Bus Peak or Srikanta,	30	57	25	78	50	50	20149	Do.	
1299	LXXVII. or Banderpoonch,	31	0	12	78	35	45	20758	Do.	
1300	LXXVIII.	31	0	25	78	34	6	20038	Do.	
1301	LXXIX. or Sargoroen,	31	6	8	78	32	32	20405	Do.	

The Latitude depends on the value of that element adopted for Kalianpoor Station = $24^{\circ} 7' 11''.262$.

The Longitude is referrible to the old value for the Madras Observatory = $80^{\circ} 17' 21''$ to which a correction of $-3' 25''.5$ is applicable to reduce to the value adopted by the Admiralty and Royal Astronomical Society or $-3' 1''.8$ to reduce to the result of Taylor's observations up to 1845.

The Heights originate from the mean sea level, observed in Kydd's Dock-yard, Calcutta.

A Letter from ARCHDEACON PRATT on COLEBROOKE'S determination of the date of the Vedas.

Culeutta, March 21st, 1862.

MY DEAR PROFESSOR COWELL,—In reply to your question, How did Colebrooke deduce the age of the Vedas from the passage which he quotes from the Jyotish or Vedic Calendar in his Essays (vol. i. p. 110)? I beg to send you the following remarks.

In that passage it is stated that the Winter Solstice was, at the time the Vedas were written, at the beginning of S'ravishthá or Dhanishthá, and the Summer Solstice at the middle of As'leshá.

Now the Hindoos divided the Zodiac into 27 equal parts called *Lunar Mansions*, of $13^{\circ} 20'$ each. Their names are

1. As'winí	10. Maghá	19. Múla
2. Bharaní	11. P. Phalguní	20. P. Áshádhá
3. Krittiká	12. U. Phalguní	21. U. Áshádhá
4. Rohiní	13. Hasta	22. S'rávana
5. Mrigas'iras	14. Chitrá	23. Dhanishthá
6. Árdrá	15. Swáti	24. S'atabhishá
7. Punarvasu	16. Vis'ákhá	25. P. Bhádrapadá
8. Pushya	17. Anurádhá	26. U. Bhádrapadá
9. As'leshá	18. Jyeshthá	27. Revatí.

The position of these Lunar Mansions among the stars is determined by the stars themselves and not by the sun, and is therefore unaffected by the precession of the equinoxes. If, therefore, we can determine their position at any one epoch, we know their position for all time. The Hindoo books furnish us with the requisite information. In the translation of the Súra Siddhánta published in the Bibliotheca Indica, Chap. VIII. p. 62, you will find that the conspicuous star Regulus, or α Leonis, is placed by the Hindoo Astronomers at 4 signs, 9 degrees from the beginning of these Lunar Mansions (or Asterisms, as they are there called). As 4 signs equal one-third of the whole zodiac, they equal 9 lunar mansions. Hence the position of Regulus is 9° in Mágha the 10th lunar mansion.

But by the Jyotish, the Summer Solstice was in the middle of As'leshá, the 9th lunar mansion, at the epoch of the Vedas: therefore Regulus was half a lunar mansion $+ 9^{\circ}$, that is, $15^{\circ} 40'$, east of the Summer Solstice at that time.

By the Nautical Almanac for 1859, the position of Regulus is given as follows :—

Right ascension, January 1st, 1859,	...	...	10h. 0m. 53s.
North declination, ditto,	...	...	12° 39' 12".7.

From this I obtain, by spherical trigonometry, the following result :—

Longitude of Regulus, January 1st, 1859,	...	147° 52' 30".
--	-----	---------------

Hence Regulus was east of the Summer Solstice at that date by 57° 52' 30". The Summer Solstice had, therefore, retrograded through 42° 12' 30" = 42°.208 since the epoch of the Vedas. As the equinoxes and solstices move backward on the ecliptic at the rate of 1° in 72 years, it must have occupied $72 \times 42°.208 = 3039$ years to effect this change.

Hence the age of the Vedas was 3039 on 1st January, 1859 ; or their date is 1181 B. C., that is, the early part of the twelfth century before the Christian era.

This differs from Mr. Colebrooke's result : he makes it the 14th century. Two more degrees of precessional motion would lead to this ; but where he gets these from, I do not know, unless it be by taking the *constellations* loosely, instead of the exact lunar mansions. Thus Dhanishthá being taken to be the lunar mansion *above which the Dolphin* occurs, it is possible that he may have considered the first star in the constellation Dolphin to be the "beginning of Dhanishthá" alluded to in the Jyotish ; and similarly he may have taken a star in the middle of Hydra's head to represent the "middle of A'slesh'a." But even this supposition will not carry us into the 14th century. If we take the first star ϵ in Dolphin and the opposite star ζ in Hydra's Head to be the solstitial points, the precessional motion will only be about 40' *more* than above, and the date will be B. C. 1229 or late in the 13th century. But then ζ is *not* in the middle of Hydra's head ; it is about 2° east of it ; and therefore I have no doubt the lunar mansion, and not the constellation, is what the Jyotish refers to, and the early part of the 12th century is the correct result.

I am, your's very truly,

JOHN H. PRATT.

To Professor COWELL,

Secretary of the Asiatic Society of Bengal.

Literary Intelligence.

Our oriental readers will recollect that, in the October Meeting, the Society accepted Dr. Fitz-Edward Hall's offer to publish in the *Bibliotheca Indica*, a fragment of the very rare *Nāṭya S'āstra* of Bharata,—a work, which, though frequently quoted by mediæval scholiasts, had never before been met with by any European, and of which Professor Wilson had even doubted the very existence. "As far as has been ascertained, the work of Bharata has no existence in an entire shape, and it may be sometimes doubted whether the rules attributed to him are not fabricated for the occasion."* Dr. Hall, however, had been fortunate enough to discover a fragment of this singular production, containing the first seven *adhyāyas*, and as many of the quotations in the scholiasts could be verified in them, any doubts as to the existence of the original work were of course at once set at rest.

Unfortunately this fragment was very corrupt and it abounded with hiatuses and doubtful readings. Dr. Hall has just written to us, previous to his departure *viâ* Bombay to England, the following interesting intelligence from Bhelsa :

"Going into the city to-day (Feb. 21) to read an old inscription, I was accosted by a very intelligent looking pundit. We chatted on for an hour or so, and I discovered that he had a MS. of Bharata. He has given it to me. It contains 277 leaves,—the entire work in 36 *adhyāyas*, and was written in Samvat 1575."

Bharata appears to have written a complete *Ars Poetica*, and he has discussed at great length the theory of the poetical sentiments, &c., as well as the various parts of the dramatic art. On the whole, we consider Dr. Hall's discovery one of the most curious made of late in old Indian literature.

The following is an extract from a letter dated 31st May last addressed to Babu Rajendra Lal Mitra by Professor Holmboe of Christiana.

"Je vous envoie avec cette lettre quatre mémoires, qui ont été lus dans notre société de sciences, dont j'ai l'honneur d'être le président

* *Hindu Drama*, Vol. 1. p. xx.

actuel. Dans celui sur Krodo j'ai démontré, que l'ancien idol, qu'adoraient les anciens Saxons sous ce nom, n'est autre chose que क्रीड des Indiens, un des noms de Saturne, avec lequel le Krodo des Saxons est aussi assimilé. J'y ai trouvé aussi, que Hain, un des noms tropiques de la mort en Saxe, est identique avec le Sanscrit शनि. Le mémoire sur quelques monuments cruciformes touchent à peine l'Orient. J'ai néanmoins y hasardé la supposition, qu'elles puissent avoir quelque rapport à un des symboles, qui apparaissent sur les monnaies asiennes, à savoir un aérole d'où sortent quatre lignes en forme d'une croix. Dans le mémoire, qui traite des sculptures sur les rocs de Scandinavie, j'ai démontré, qu'elles sont analogues à quelques sculptures sur les topes de Sanchi près de Bhilsa, représentant la mort de Buddha, et j'ai tâché de prouver, que les navires ou batcaux et les roues, qui se trouvent en grand nombre sur nos rocs, sont des monuments sur les morts. Dans le quatrième mémoire, traitant du pouvoir d'amulette, qui a été attribué aux armes et instrumens pointus et escarpés et même au métal et à la pierre, j'ai rassemblé un certain nombre d'analogies de l'Asie centrale, des exemples analogues de l'Inde m'étant inconnus. Je ne doute pas, que la même superstition a régné et regne peut-être encore en l'Inde. Voudriez vous m'indiquer quelque livres, où on en a traité, je vous serai très obligé.

“Vous voyez, que mes recherches découvrent de temps en temps quelques nouveaux liens entre les Germains-Scandinaves et les Ariens,—découvertes, qui rehaussent mon zèle pour la continuation de telles recherches.”

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JANUARY, 1862.

The Annual General Meeting of the Asiatic Society was held on the 15th instant.

A. Grote, Esq., President, in the chair.

The following resolution proposed by Sir Bartle Frere and seconded by Captain W. N. Lees, was carried unanimously.

That this meeting not having been called in strict accordance with Rule 46, the meeting resolves that the present shall be held to be the Annual Meeting.

The following gentlemen duly proposed at the last meeting were balloted for, and elected ordinary members.

Major D. Briggs (re-elected), G. E. Ward, Esq., C. S., and W. King, Junior, Esq.

The following gentlemen were named for ballot at the next meeting.

Colonel H. Torrens, proposed by the President, seconded by Sir B. Frere.

Captain E. Smyth, proposed by the President, seconded by Mr. Atkinson.

Baboo Gour Doss Bysack, proposed by the President, seconded by Baboo Rajendralal Mitra.

Colonel C. S. Guthrie, Bengal Engineers, proposed by Mr. Atkinson, seconded by the President.

The Secretary read the following Report for 1861.

ANNUAL REPORT.

In submitting their annual report on the state of the Society's affairs during the past year, the Council have again the satisfaction of adverting to its generally promising character.

The number of elections during 1861, has been fifty-one, being less by eighteen than that of the preceding year, but considerably exceeding the general average (16) of the previous ten years.

At the same time, two members have been lost to the Society by death, and nine by retirement. Deducting these, the number of ordinary members on the rolls at the end of the year was 281 against 242 in 1860.

Of the ordinary members now on the rolls, 55, or about one-fifth are absent from India, leaving 226 on the paying list.

The table in the margin shows the fluctuation in the number of members during the last ten years.

	Ordinary.	Paying.	Absent.
1851	130	124	6
1852	139	122	17
1853	146	123	23
1854	155	129	26
1855	162	128	34
1856	167	131	36
1857	147	109	38
1858	133	193	38
1859	180	135	45
1860	242	195	47
1861	281	226*	55

* Of this number one is a life-member.

The only corresponding member elected during the year is Dr. R. Gosche of Berlin.

Among those who have been lost to the Society by death, the Council have to record with much regret, the name of Col. R. Baird Smith, C. B. The unceasing interest which Col. Baird Smith, evinced in all

scientific questions connected with India, naturally led him to take an active part in the affairs of the Society, and to forward its objects whenever opportunity offered. In him the Society has to deplore the loss of a scientific scholar of high attainments, and a frequent contributor to its Journal.

Mr. Freeling, who also died within the year, was an able numismatist and a zealous member.

FINANCE.

The financial position of the Society may, on the whole, be regarded as satisfactory.

The total amount of subscriptions realizable from the 226 paying members now on the rolls—107

Contributions.			
1851	8583	4	5
1852	6373	1	3
1853	7778	9	3
1854	7082	0	0
1855	7166	0	0
1856	8096	0	0
1857	7068	0	0
1858	6923	8	0
1859	6750	0	0
1860	6441	0	0
<hr/> 72,260		<hr/> 6	<hr/> 11

Rs.

The average of which is 7,226-2-3

by about Rs. 400.

The assets of the Society amount to Rs. 7,431-9-8 exclusive of the

* Arrears due from Residents,	1,242	0	0
— from non-Residents,	1,711	3	8
— of subscriptions at the old rate, ..	2,088	10	0
Total, .. Rs.	5,041	14	3

amount of outstanding claims Rupees 6,639-8-6 the greater portion of which (as shewn in the margin)* is on account of arrears of contributions. The liabilities amount to Rs. 4,539-5-4 chiefly on account of printing.

The estimate of the probable income and expenditure of the Society for the ensuing year is as follows :—

INCOME.

Contributions, ...	...	6,660	0	0
Admission fees,...	...	1,470	0	0
Journal, ...	...	660	0	0
Library, ...	...	450	0	0
Museum, ...	...	3,615	0	0
Secretary's Office,	...	12	0	0
Vested Fund, ...	...	245	0	0
General Establishment,	...	12	0	0
Coin Fund, ...	...	40	0	0

13,164 0 0

EXPENSES.

Journal, ...	...	2,100	0	0
Library, ...	...	1,905	0	0
Museum, ...	..	5,920	0	0

Secretary's Office,	...	1,767	0	0
Building,	...	396	0	0
Vested Fund,	...	10	0	0
Coin Fund,	...	166	0	0
Income Tax,	...	120	0	0
Miscellaneous,	...	541	0	0
<hr/>				
				12,925 0 0

LIBRARY.

The Library has received an addition of about 450 volumes, during the past year, the greater part of which are presentations from various learned and scientific institutions and individuals with whom the Society is in correspondence. Some Oriental works have been purchased and a few scientific periodicals and Reviews.

COIN FUND.

The numismatic collection has received no addition of moment during the period under review, some duplicate copper and silver coins of the later Mahomedan kings of India, have been sold, and other coins principally Bactrian, have been purchased.

Exchanges which will fill several gaps in this interesting series of medals, are now being made with Colonel Cunningham, and the Coin Committee are taking advantage of Mr. E. C. Bayley's presence in Calcutta, to introduce some order into their Cabinet.

MUSEUM.

The accessions to the Museum during the last year have been varied and interesting.

The most important of these additions is an extensive collection of casts chiefly facial, illustrative of the various races of India and Central Asia, prepared by the enterprising travellers Messrs. de Schlagintweit. This valuable collection has been transferred to the Society's Museum from the Medical College by order of Government. For the better arrangement and display of these casts, several new stands and frames have been prepared. A small selection of twenty casts from the series had previously been presented to the Society by Herr R. de Schlagintweit.

In the Mineralogical department has been added several magnificent aerolites which fell on the 12th of May last in the district of Goruckpore. Five fragments of this fall have been received, speci-

mens of which are about to be sent to the British Museum in exchange for specimens of other aerolites.

Mr. Blanford has completed a descriptive and illustrated catalogue of the Society's collection of fossil remains, chiefly consisting of Cephalopoda, from the beds of the Spiti valley.

The catalogue of mammalia, the Council are again sorry to report, has not been completed. This is chiefly to be ascribed to the serious illness and consequent prostration of strength of the Curator, Mr. Blyth, which has obliged him on two occasions to seek a change of climate. He obtained on this account five months' leave of absence during the year.

The Council regret that the condition of the museum remains unimproved. Relying on the known disposition of Government both here and at home, to aid the Society in the preservation of their valuable collection at all events till the question of the establishment of an Imperial museum should be finally disposed of, the Council addressed the Home Secretary on the 20th April last to press on the reconsideration of Government, their previous application for an additional grant of Rs. 200 per month, but up to the close of the year no reply was received.*

NATIVES.				an object of considerable public interest and attraction. The annexed memo. will show that the average No. of visitors exceeds 250 per diem.
Males,	..	..	82524	
Females,	..	..	4495	
EUROPEANS.				
Males,	..	..	2941	
Females,	..	..	1603	
Total,	..	..	91563	Having learnt that her Majesty's Government had issued orders to

The average being 251 per day. stop the publication of the catalogues of the Zoological collections in the late India House Museum which were in course of preparation, the Council have addressed a letter to the Right Hon'ble the Secretary of State for India, soliciting that the question may be further considered, and that this useful series of publications may be proceeded with and completed.

No answer to this application has yet been received.

JOURNAL.

Three Nos. of the Journal have been published during the year, and a fourth is in the press. They contain papers of considerable

* The additional grant solicited has since been given.

interest on several subjects connected with the investigations in which the Society takes an active interest.

BIBLIOTHECA INDICA.

The Council are gratified to notice the continued activity which has prevailed during the past year in the different branches of the Bibliotheca Indica. Sixteen numbers have appeared of the new series and fifteen of the old.

In the new series the Vais'eshika Sutras have been completed with two commentaries under the editorship of Pundit Jayanārāyana Tarka Panehānana, and Dr. Ballantyne has published the S'āṇḍilya Sutras with Swapnes'wara's commentary. Dr. Hall has published the first Fasc. of the Das'a-rūpa or Hindu canons of Dramaturgy, (the Fasc. concluding the work is in the press), and he has also in the press an edition of the very rare Nāṭya Śāstra of Bharata. Mr. Cowell has edited the Kaushītaki Upanishad with S'ankarānanda's commentary; the Rev. K. M. Banerjea has published the first part of the Nārada Pancharātra; and the first part has been published of the translation of the Siddhānta S'īromani by the late Lancelot Wilkinson, Esq., revised by Pundit Bāpu Deva.

Considerable progress has also been made in the series of Muhammadan historians of India: four Fasc. have been issued of Zīā-i Barnī's Tārīkhi Ferozshāhī, and only one more remains to complete the work.

The Tārīkhi Masāūdi of Baihakī, (as prepared for publication by the late W. H. Morley, Esq.) has been also commenced and two Fasc. have appeared.

The editors of the works in the old series have also made good progress towards the gradual completion of the publications still remaining unfinished.

Mr. Cowell has issued two Fasc. of the Black Yajush Sanhitā; and Babu Rājendralāl Mitra has brought out two Fasc. of the Black Yajur Brāhmaṇa, and the concluding parts of the Kāmandakīya Nīti Śāra, and of an English translation of the Chhāndogya Upanishad. The Kāmandakīya Nīti Śāra is a rare work on polity, and will prove interesting to Oriental scholars, while the translation is a valuable contribution to our knowledge of the literature of the Upanishads.

Pundit Rāmnārāyana who undertook in the absence of Dr. Roer to complete the Vedānta Sutras, has published three Fasc. of that important treatise.

The Rev. K. M. Bancrjea has issued two numbers of his edition of the Márkaṇḍeya Purāṇa. Only one more fasciculus remains to complete that important work.

The titles of the Fasciculi of the old series published during the past year are :

The Dictionary of Technical Terms used in the Science of the Musulmans, P. II. edited by Mawlawies Abdul-Haqq and Gholám Kádir under the supervision of Captain W. N. Lees, LL. D., Nos. 167, 170, 173, Fas. XVII. XVIII. XIX.

2. The conquest of Syria commonly ascribed to Aboo Abd Allah Muhammad Bin Omar al Waqidi, edited by Captain W. N. Lees, LL. D., No. 168, Fas. VIII.

3. Márkaṇḍeya Purāṇa, edited by Rev. K. M. Bancrjea, Nos. 169, 177, Fas. V. and VI.

4. Sanhitá of the Black Yajur Veda with the commentary of Mádhava Áchárya, edited by E. B. Cowell, M. A.; Nos. 171, 180, Fas. XIV. XV.

5. Aphorisms of the Vedánta, by Bádaráyana with the commentary of S'ankara Áchárya and the gloss of Govinda Ananda, edited by Pundit Rámnaráyana Vidyáratna, Nos. 172, 174, 178, Fasc. III. IV. V.

6. Taittiríya Bráhmaṇa of the Black Yajur Veda with the commentary of S'ayanáchárya, edited by Babu Rajendralal Mitra, Nos. 175, 176, Fasc. X. XI.

7. Níti Sára or the Elements of Polity, by Kámandaki, edited by Babu Rajendralal Mitra, No. 179, Fasc. II.

8. The Chháṇḍogya Upanishad translated into English, by Babu Rajendralal Mitra, No. 181, Fasc. II.

The titles of the Fascieuli of the new Series are :—

1. The Vais'eshika Dars'ana with the commentaries of S'ankara Mis'ra and Jayanáráyana Tarka Panchánana, edited by Pundit Jayanáráyana Tarka Panchánana, Professor of philosophy in the Sanscrit College of Bengal, Nos. 5, 6, 8, 16, Fasc. II. III. IV. V.

2. Táríkhí Ferozsháhi of Zíá al Din Barni commonly called Ziaa-i-Barni, edited by Saiyid Ahmed Khan under the supervision of Captain W. N. Lees, LL.D. Nos. 7, 9, 14, 15, Fasc. III. IV. V. VI.

3. Aphorisms of Sándilya with the commentary of Swapnes'wara edited by J. R. Ballantyne, LL. D. No. 11.

4. Das'a-rúpa or Hindu canons of Dramaturgy, by Dhananjaya; with the exposition of Dhanika, the Avaloka, edited by Fitz-Edward Hall, D. C. L., No. 12, Fasc. I.

5. Hindu Astronomy, II. The Siddhánta S'tiromani. Translated from the Sanskrit. By the late Lancelot Wilkinson, Esq., C. S. and revised by Pundit Bápu Deva Sástri under the superintendence of the Ven'ble Archdeacon Pratt, No. 13, Fas. I.

6. Náradapancharátra, edited by Rev. K. M. Banerjee, No. 17, Fas. I.

7. Táríkhi Baiháki of Masaud, son of Sultan Mahmúd Gházi, edited by the late W. H. Morley, Esq., published under the superintendence of Maulavi Kabiruddeen Ahmed, Nos. 16, 18, Fas. I. II.

8. Kaushítaki Upanishad, edited by E. B. Cowell, M. A., Nos. 19, 20, Fas. I. II.

OFFICERS.

In consequence of the failing health of the Curator, Mr. Blyth, the Council on the 28th July last, again addressed a memorial to the Right Hon'ble the Secretary of State for India, soliciting a reconsideration of the decision by which Mr. Blyth's claim to pension was declared inadmissible. The Council are not without hopes that the long and valuable services of Mr. Blyth in advancing zoological science in India, will induce the Government to bestow on him a pension which has been fairly earned.

Bábu Gour Doss Bysack, who for some years held the office of Assistant Secretary and Librarian to the Society, having lately resigned, his place has been filled up by the appointment of Bábu Lalgopal Dutt, B. A., who had officiated for him on two different occasions. Babu Gour Doss Bysack was a zealous and active Officer and fully merited the approbation of the Council. His successor has also hitherto discharged his duties to their satisfaction.

The President in moving the adoption of the report observed :

"I venture to recommend for the meeting's approval and adoption the report which has just been read. It might, I think, have gone further had it not been the Council's province to confine it to matters of business. The year to which it relates has been on many accounts an interesting one, as the record of the Society's proceedings will, I think, show.

"These proceedings opened by Mr. Le Mesurier's communication

from Jubbulpore announcing the discovery of Celts in the neighbourhood of the Tonse river. This is believed to have been the first discovery of the kind in India, and gives us a special and local interest in questions which have lately been occupying prominent attention in Europe. I am in hopes that the new year will see arrangements made by the Council for pursuing enquiries as to what people are likely to have made or used these implements, and as to whether similar traces of human life at a very ancient period may not be forthcoming in other parts of India.

“I have already proposed to my colleagues on the Council that all advantage should be taken of our position in a country so rich as India is in ethnological materials. We have already the Schlagintweit casts and hope to secure a series of the photographic drawings which are now in course of preparation for dispatch to England by order of the different local governments. If we can succeed in collecting together the crania of some even of the many races which now exist in India, we shall have the means of assisting largely in researches which have assumed a new importance within the last year or two.

“Our March meeting was a crowded one. Captain Montgomerie, it will be remembered, on that evening exhibited to us his map of the Jummoo territories, and read his memo. on the progress of the Kashmir series of the Great Trigonometrical Survey, which was afterwards published in our Journal. It has been with the greatest satisfaction that I have observed during the last year or two, the increasing number of recruits which our list of members is receiving from the two great Surveys now in progress in India. I look on their adhesion to our Society as real strength gained, for these new members have the privilege of pursuing as a profession, investigations which enable them to contribute most valuable information to our Journal as well as to our general meetings.

“On another occasion we had from Captain Pelly an account of his adventurous ride without disguise and without arms from Trebizond to Kurrachee, and in May we listened to an interesting paper by Colonel Yule on some antiquities near Jubbulpore, and to some observations by Professor Oldham on a small but valuable collection of fossils which had been presented to his museum by his Excellency Sir William Denison who was himself present at the meeting. Mr.

Oldham showed us that he hoped to derive from this collection most material assistance in determining the question of the true age of the coal-bearing strata of this country.

“The June meeting was also an interesting one. Information was communicated to it of the fall of aerolites at Peeprassee on the 12th May, and further particulars of the previous fall at Dhurmsala,—a magnificent specimen of the former was exhibited.

“It was then also that we received the first announcement of the intention of Government to send an expedition across the snows under Captain E. Smyth to Chinese Tartary, and although this project has since been dropped in consequence of the failure to obtain passports for the party from Peking, it is to be hoped that it is abandoned for a time only. I am, I believe, at liberty to mention the names of the gentlemen who were to form Captain Smyth’s party. They were Dr. W. L. Stewart, Mr. H. B. Medlicott, Lieutenant Basevie and Dr. T. C. Jerdon.

“At our August meeting, Colonel Yule read a memo. drawn up by M. de Mazure, Vicar apostolic of Thibet, on the countries between that country Yunan and Burmah, which had been sent to us by Colonel Phayre. Lord Canning, it will be remembered, attended at this meeting. The subject was full of interest, for at the time we had not heard of Colonel Sarel’s return from his attempt to penetrate to Thibet through W. China. It was thought that any day might bring us news of him from Lhasa or even Darjeeling. Colonel Yule illustrated his remarks on the memo. by a map compiled by himself from the scanty materials available, and this map is, I believe, being published with the memo. in the forthcoming No. of our Journal. At the next meeting the failure of the Yang-tse Kiang expedition was announced, and soon afterwards the purport of the unfavourable reply from Peking to the application of the Indian Government for passports of Captain Smyth’s party was communicated to the Society. I earnestly hope that a renewed attempt which Colonel Sarel has applied for leave to make, up the Yangtse-Kiang, may ere long be sanctioned by the home Government, and that the same authorities may further permit the vigorous prosecution of other expeditions which have been mooted during the last year, and which have for their object the extension of our geographical knowledge of the countries on our northern and eastern frontiers.

“From the October and November meetings, I was unfortunately absent, but Colonel Yule, I see, read at the first, a paper on the Indian remains in Java, and at the last Mr. H. F. Blanford read an abstract of his paper on the Gerard collection of Spiti fossils which have so long lain undescribed in our museum. Both these papers will appear at length in the Journal; at the same meeting was communicated Mr. Pogson’s observation on the new planet Asia, the first discovery of this kind I believe in India.

“The Nos. of the Journal too which have been published during the year, contain a larger proportion of papers on Oriental literature than the Nos. for the previous years. The Paris Society in Mr. Mohl’s annual report of July last, has again noticed the marked tendency towards natural history which characterizes our Journal for 1860—attributing it, however, to other causes than what appears to me to be the real one. I hope now that sanction has been given to Colonel Cunningham’s archaeological mission, that our proceedings in the coming year will give proofs of our constancy to those tastes which have so materially helped to found our Society’s reputation. I anticipate loud approbation from European Orientalists of the work done in the past year by the editors of the 31 Nos. which have been published in the *Bib. Indica*. For our successful progress in the publication of this series, the Society is mainly indebted to Mr. Cowell, Babu Rajendralal Mitra and Captain Lees, whose press and able staff of Moulavies at the Madrasa remained at our service during Captain Lees’ absence in England.

“Altogether the year has been an interesting one, and if the meeting agree with me in thinking so, they will probably also agree with me in thinking that our success has been owing in no small degree to the general attention given to the Society’s affairs by its late Council and Secretaries.

“I regret extremely that our obituary should contain the name of one of our office-bearers so useful and active as Colonel Baird Smith, whose papers extend over our Journal for the last twenty years.”

The report was then put and adopted.

The meeting then proceeded to ballot for the Council and officers for the ensuing year. The Hon’ble H. B. Devereux and Mr. J. Sandars, were appointed Scrutineers, and at the close of the ballot, the chairman announced the following result,

COUNCIL.

A. Grote, Esq.,	<i>President.</i>
Lieutenant-Colonel H. L. Thuillier,	} <i>Vice-Presidents.</i>
Babu Rajendralal Mitra,	
T. Oldham, Esq.,	
Babu Ramapersaud Roy.	
Hon'ble Sir H. Bartle Frere.	
Hon'ble S. Laing.	
Dr. W. Crozier.	
Dr. J. Fayrer.	
Lieutenant-Colonel H. Yule.	
Captain W. N. Lees.	
E. C. Bayley Esq.,	
Dr. T. Anderson.	
W. S. Atkinson, Esq.,	} <i>Joint Secretaries.</i>
E. B. Cowell Esq.,	

ABSTRACT STATEMENT
OF
RECEIPTS AND DISBURSEMENTS
OF THE
ASIATIC SOCIETY,
FOR
THE YEAR 1861.

STATEMENT

Abstract of the Cash Accounts

RECEIPTS.		1860.	1861.
CONTRIBUTIONS, ...			
Received from Members,...	6,441 7 0	6,812 0 0	6,812 0 0
ADMISSION FEE, ...			
Received from New Members,	2,016 0 6	1,472 0 0	1,472 0 0
JOURNAL, ...			
Sale proceeds of, and Subscriptions to,		549 13 0	
the Journal of the Asiatic Society,		4 2 0	
Refund of Postage Stamps,	1,094 8 9		553 15 0
LIBRARY, ...			
Sale proceeds of Books, ...	432 11 6	385 8 0	385 8 0
MUSEUM, ...			
Received from the General Treasury at		3,600 0 0	
300 Rs. per month, ...		19 5 0	
Savings, ...		2 0 0	
Fines, ...			
Refund of the price of 2 Benches for		8 0 0	
the Taxidermist's Room charged on			
the 6th April, 1861, ...	3,616 2 3		3,629 5 0
SECRETARY'S OFFICE,			
Sale of Postage Stamps, ...		7 15 0	
Discount on ditto, ...		2 3 0	
Refund of Postage, ...		1 0 0	
	15 9 0		11 2 0
VESTED FUND, ...			
Interest on Government Securities re-		245 0 0	
ceived from the Bank of Bengal,	245 0 0		245 0 0
COIN FUND,			
Sale proceeds of Old Coins,		118 11 9	118 11 9
MESSES. WILLIAMS AND NORGATE,			
Freight on a Parcel received through			
Dr. E. Röer ...		3 12 0	
Ditto ditto through Rajah Radhakant		1 0 0	
Deva, ...	7 0 0		4 12 0
DEPOSIT, ...			
W. A. D. Anley, Esq. ...		30 0 0	
Harry Duhan, Esq. ...		18 0 0	
Baboo Nobin Chunder Roy,		6 1 0	
R. H. Russell, Esq. ...		18 0 0	
C. H. Barnes, Esq. ...		12 0 0	
Rev. S. Hislop, ...		4 6 0	
Capt. E. L. Earle, ...		32 0 0	
Major J. T. Walker, ...		18 0 0	
Carried over,	138 7 0	13,232 5 9	

No. 1.

of the Asiatic Society, for 1861.

DISBURSEMENTS.

	1860.	1861.
CONTRIBUTIONS, ...		
Receipt Stamps for collecting Contributions, ...	2 8 0	15 2 6
JOURNAL, ...		
Freight, ...	72 4 0	
Printing charges, ...	326 14 9	
Commission on sale of Books,	27 10 9	
Purchasing Postage Stamps,	33 12 0	
Packing charges, ...	9 12 6	
Engraving 3 Diagrams, ...	15 0 0	
Ditto on Copper, 3 plates of Gems and Inscriptions, ...	60 0 0	
Drawing a Map of Gilgit and the adjacent countries, ...	10 0 0	
Ditto on Stone two portraits of the Andaman Islanders, ...	40 0 0	
	3,183 9 7	595 6 0
LIBRARY, ...		
Salary of the Librarian for 12 months at Rs. 70 per month,...	840 0 0	
Establishment, ...	84 0 0	
Purchase of Books, ...	50 0 0	
Book-binding, ...	252 5 0	
Commission on sale of Books,	86 0 9	
Two new Teak wood Book cases,	300 0 0	
Printing 150 copies of Shell Catalogue,	422 0 0	
Lithographing and printing charges,	11 0 0	
Charges for cleaning Books,	25 0 0	
A new mat for the Library Room,	27 2 0	
Two Blank Books, ...	4 15 6	
Petty Charges, ...	6 0 0	
	1,332 9 2	2,108 7 3
MUSEUM, ...		
Salary of the Curator, E. Blyth, Esq. at Rs. 250 per month, for 12 months,	3,000 0 0	
House-rent at Rs. 80 per month, for 12 months, ...	960 0 0	
Establishment, ...	744 0 0	
Extra Taxidermist's Salary,	594 9 6	
Contingent Charges, ...	246 10 9	
12 yards Oil Cloth for laying over a part of the new Mat, ...	12 8 0	
A new Mat for the Landing place,	31 12 0	
Repairing old Mats, ...	3 0 0	
Mr. E. Blyth's passage money to and from Moulmein, ...	252 0 0	
A Blank Book for entering the names of Visitors, ...	8 0 0	
Labelling the Meteoric Stones,	5 14 0	
Carried over,...	5,858 6 3	2,718 15 9

	1860.	1861.
	Brought over, ...	13,232 5 9
DEPOSIT— <i>Continued.</i>	138 7 0	
Baboo Shumbhoo Chunder Roy,	56 0 0	
Capt. Raverty, ...	26 12 0	
Capt. J. C. Haughton, ...	6 0 0	
C. J. Campbell, Esq. ...	24 0 0	
W. T. Dodsworth, Esq. ...	6 0 0	
R. H. M. Warrand, Esq. ..	16 0 0	
E. Blyth, Esq. ...	425 0 0	
	197 10 0	698 3 0
BALANCE OF 1860.		
Bank of Bengal, ...	1,654 13 2	
Cash in hand, ...	85 7 6	
Inefficient Balance, ...	250 12 6	
		1,991 1 2

Carried over, .. 15,921 9 11

1860.

1861.

Brought over,... 2,718 15 9
5,858 6 3

MUSEUM—Continued.

Two Teak wood Racks and two Teak
wood Wall Frames for Ethnogra-
phical Heads, ...
Repairing Brass Heads and Wooden
Frames of the Casts, ...

225 0 0

10 0 0

6,065 1 3 ————— 6,093 6 3

SECRETARY'S OFFICE,

General Establishment, ...
Secretary's Office Establishment,
Purchase of Postage Stamps,
Extra Writer's Salary, ...
A Sheet Almanac for 1861,
Bearing Postage, ...
Repairing a Lever Embossing Press,
A Blank Ledger Book, ...
Three Blank Books, ...
Printing Charges, ...
Stationery, ...
Petty Charges, ...

774 0 0

820 0 0

41 6 6

20 0 0

1 8 0

7 7 0

4 0 0

28 0 0

9 0 0

24 0 0

98 14 6

12 7 9

1,745 5 9 ————— 1,840 11 9

VESTED FUND, ...

Paid Commission upon Interest on the
Government Securities,
Ditto Income Tax on ditto,

0 9 6

9 10 0

5 6 7 ————— 10 3 6

COIN FUND, ...

Purchase of Coins, ...

191 8 0

306 12 0 ————— 191 8 0

INCOME TAX, ...

Paid Income Tax on Mr. E. Blyth's
Salary from December, 1860 to No-
vember, 1861 for 12 months at 10 Rs.
per month, ...

120 0 0

50 0 0 ————— 120 0 0

MESSRS. WILLIAMS AND NORGATE,

Paid Freight for sending back 16 Copies
of Muller's Buddhism, ...
Ditto Rev. C. B. Lewis as per their
Order, ...
Ditto Messrs. Gillanders, Arbuthnot &
Co. as per do. ...

3 0 0

260 0 0

1,000 0 0

1,000 0 0 ————— 1,263 0 0

BUILDING, ...

Assessment, ...
Ditto for Lighting, ...
Repairing, ...

270 0 0

72 0 0

53 2 0

392 2 0 ————— 395 2 0

MISCELLANEOUS, ...

Advertising Charges, ...
Meeting Charges, ...
Salary of a Ticca Mally, ...
Repairing an Argand Lamp,
Ditto old Rattan Mats, ...
Paid for a dozen Sissoo Wood Chairs,

23 4 0

164 0 0

42 7 6

5 8 0

7 4 0

66 0 0

Carried over,... 308 7 6 12,632 15 3

Brought over, .. 15,921 9 11

Co.'s Rs. ..	15,921	9	11
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Examined.

LALGOPAL DUTT,

Assistant Secretary.

*Asiatic Society's Rooms,
The 31st Dec. 1861.*

	1860.	1861.
	Brought over, .	12,632 15 3
MISCELLANEOUS— <i>Continued.</i>	308 7 6	
Paid fee to the Bank of Bengal for Stamping Cheques, ...	1 9 0	
Purchasing an 8-day Clock by Murray, No. 1337, ...	190 0 0	
Petty Charges, ...	21 14 6	
	636 12 0	521 15 0
DEPOSIT, ...		
Baboo Nobin Chunder Roy, ...	9 10 0	
W. A. D. Anley, Esq. ...	12 0 0	
J. P. Grant, Esq. Jr. ...	24 0 0	
G. Shelverton, Esq. ...	12 0 0	
John Strachey, Esq. ...	6 0 0	
Rajah Bunsput Singha, ...	12 0 0	
G. H. M. Batten, Esq. ...	12 0 0	
Harry Duhan, Esq. ...	18 0 0	
R. H. Russell, Esq. ...	18 0 0	
C. H. Barnes, Esq. ...	12 0 0	
Capt. E. L. Earle, ...	12 0 0	
Major J. T. Walker, ...	12 0 0	
Baboo Sumbhoo Chunder Roy, ...	44 0 0	
Capt J. C. Haughton, ...	6 0 0	
C. J. Campbell, Esq. ...	12 0 0	
W. T. Dodsworth, Esq. ...	6 0 0	
R. H. M. Warrand, Esq. ...	6 0 0	
Moonshee Narain Doss, ...	2 8 0	
Baboo Rooder Nauth Doss, ...	2 0 0	
Lt. C. J. Terrot, ...	2 0 0	
E. Blyth, Esq. ...	65 0 0	
	191 12 0	305 2 0
BALANCE.		
Bank of Bengal, ...	2,212 10 11	
Cash in hand, ...	65 15 9	
Inefficient Balance, ...	182 15 0	
		2,461 9 8
		Co.'s Rs. 15,921 9 11

W. S. ATKINSON,

Secretary, Asiatic Society.

STATEMENT,
Abstract of the Oriental

	1860.	1861.
SALE OF ORIENTAL PUBLICATIONS,		
Received by sale of Bibliotheca Indica,	731 4 9	
Ditto by subscriptions to ditto,	52 8 0	
Ditto by sale of White Yajur Veda,	94 0 0	
	950 5 9	877 12 9
GOVERNMENT ALLOWANCE,		
Received from the General Treasury at 500 Rs. per month, 12 months,	6,000 0 0	6,000 0 0
VESTED FUND, ...		
Received Interest on Government Securities from the Bank of Bengal,	440 0 0	
	625 2 5	440 0 0
CUSTODY OF ORIENTAL WORKS,		
Savings and Establishment,	6 6 3	
	8 1 9	6 6 3
BIBLIOTHECA INDICA.		
Refund of Postage Stamps,	1 0 0	
		1 0 0

Carried over, 7,325 3 0

No. 2.

Fund for the year 1861.

	1860.	1861.
SALE OF ORIENTAL PUBLICATIONS,		
Commission on the Sale of Books,	6 14 9 <u>175 10 9</u>	175 10 9
VESTED FUND, ..		
Commission upon Interest on Govern-		
ment Securities, ...	1 0 11	
Income Tax on ditto, ...	17 8 0	
	6,215 3 2 <u>18 8 11</u>	
CUSTODY OF ORIENTAL WORKS,		
Salary of Librarian at Rs. 30 per		
month, ...	360 0 0	
Establishment at Rs. 14 per month,	168 0 0	
Book-binding, ...	153 6 0	
Books cleaning, ...	67 0 0	
Extra Writer's Salary, ...	10 0 0	
Extra Moonshee's Salary,	45 0 0	
Banghee Expenses, ...	22 13 0	
A new mat for the Oriental Library		
Room, ...	26 14 0	
Stamp fee paid to the Bank of Bengal		
for Blank Stamped Cheques,	1 9 0	
Packing charges, ...	1 5 0	
Petty charges, ...	8 2 0	
	735 11 9 <u>864 1 0</u>	
BIBLIOTHECA INDICA,		
Freight, ...	29 12 0	
Packing charges, ...	21 8 0	
Purchase of Postage Stamps,	11 13 0	
Petty charges, ...	3 3 3	
	38 8 9 <u>66 4 3</u>	
LIBRARY, ...		
Purchasing Books, ...	94 8 0	
	30 0 0 <u>94 8 0</u>	
COPYING MSS., ...		
Copying charges, ...	26 12 0	
	14 14 0 <u>26 12 0</u>	
COPYING PURAN, ...		
Copying charges, ...	14 7 0	
	1 0 0 <u>14 7 0</u>	
DICTIONARY OF TECHNICAL TERMS,		
Printing and Editing charges,	1,844 0 0	
	2,036 0 0 <u>1,844 0 0</u>	
TARIKHI FEROZE SHAHI,		
Printing and Editing charges,	1,344 2 0	
	270 6 0 <u>1,344 2 0</u>	
	Carried over, 4,448 5 11	

				Brought over, 7,325 3 0			
BALANCE OF 1860.							
Bank of Bengal,	...	...		3,923	12	4	
Cash in hand,	...	...			3	10	5
Inefficient Balance,	...	...		...	2,466	8	6
				<hr/>			
				6,393 15 3			

Co.'s Rs. 13,719 2 3

Examined.

LALGOPAL DUTT,

Assistant Secretary.

*Asiatic Society's Rooms,
The 31st Dec., 1861.*

	1860.	1861.
	Brought over,	4,448 5 11
MARCANDEYA PURANA.		
Editing charges, ...	120 0 0	
Printing charges, ...	697 8 0	
	<hr/>	817 8 0
SIDDHANTA SIROMANI.		
Preparing wood cuts of Diagrams,	151 0 0	
Printing charges, ...	250 0 0	
	<hr/>	401 0 0
NARADA PANCHARATRA.		
Editing charges, ...	40 0 0	
Printing charges, ...	232 8 0	
	<hr/>	272 8 0
SUREYA SIDDHANTA, ...		
Preparing wood cuts of Diagrams,	10 0 0	
	<hr/>	10 0 0
VAIS'ESHIKA DARSANA.		
Editing charges, ...	500 0 0	
Printing charges, ...	1,194 6 0	
	<hr/>	1,694 6 0
TARIKHI BAIHAKI.		
Printing and editing charges,	584 0 0	
	<hr/>	584 0 0
SANHITA OF THE BLACK YAJUR VEDA,		
Printing charges, ...	452 6 0	
	<hr/>	452 6 0
WAKIDY, ...		
Printing and Editing charges,	292 0 0	
	<hr/>	292 0 0
SANDILYA SUTRAS.		
Printing charges, ...	189 0 0	
	<hr/>	189 0 0
VEDANTA SUTRAS.		
Printing charges, ...	450 0 0	
	<hr/>	450 0 0
TAITTIIRIYA BRAHMANA,		
Printing charges, ...	448 0 0	
	<hr/>	448 0 0
DASARUPA.		
Printing charges, ...	245 14 0	
	<hr/>	245 14 0
BALANCE.		
Bank of Bengal, ...	915 7 5	
Cash in hand, ...	44 2 5	
Inefficient Balance, ...	2,454 8 6	
	<hr/>	3,414 2 4
	Co.'s Rs.	13,719 2 3
		<hr/>

W. S. ATKINSON,
Secretary, Asiatic Society.

STATEMENT No. 3.

*Liabilities.**Assets.*

CASH.		1860.		1861.	
Bank of Bengal,	Rs. 1,654	13	2	2,212	10 11
Cash in hand,	85	7	6	65	15 9
Inefficient Balance,	250	12	6	182	15 0
Government Securities,	5,000	0	0	5,000	0 0
				<u>7,461</u>	<u>9 8</u>
OUTSTANDINGS.					
Contributions,	4,313	14	3	5,041	14 3
Admission fee,	352	0	0	448	0 0
Library, Sale of Books,	218	0	0	302	8 0
Journal Subscription,	531	3	3	509	2 3
Ditto Sale of,	32	0	0	24	4 0
Government allowance for December, 1861,	300	0	0	300	0 0
				<u>6,625</u>	<u>12 6</u>

Examined.

LALGOTAL DUTT,

Assistant Secretary.

1860.		1861.	
Hon'ble Sir J. W. Colvile, Kt.,	Rs. 276	8	0
J. W. Laidley, Esq.,	418	7	4
Deposits,	96	9	0
Messrs. Williams and Norgate,	647	11	11
Salary, Establishment and Contingent Charges, say,	700	0	0
Journal No. IV. of 1860 and Nos. I. to IV. of 1861, Printing Charges,	300	0	0
Extra Copies of Journal, say,	0	0	0
Subscription to the Oriental Translation Fund, £21, ..	0	0	0
Birds' Catalogue (Binding),	42	4	0
		<u>4,539</u>	<u>5 4</u>

W. S. ATKINSON,

Secretary, Asiatic Society.

LIST OF ORDINARY MEMBERS
OF THE
ASIATIC SOCIETY OF BENGAL,
ON THE 31ST DECEMBER, 1861.

The * distinguishes non-subscribing and the † non-resident Members.



- †Abbott, Lieut.-Col. J., Artillery, Delhi.
 Abdool Luteef, Khan, Bahadur, Maulvi, Calcutta.
 †Ahmed, Saiyid, Khan Bahadur, Moradabad.
 †Aitchison, J. E. T. Esquire, M. D., Jhelum.
 *Alabaster, C. Esquire, China.
 *Allen, C. Esquire, B. C. S., Europe.
 Amir Ali, Khan, Maulvi, Calcutta.
 *Anderson, Lieut.-Col. W., Bengal Artillery, Europe.
 Anderson, T. Esquire, M. D., F. L. S., Botanical Garden, Calcutta.
 †Anley, W. A. D. Esquire, Rajmehal.
 Archer, Dr. C., Calcutta.
 As'ghur Ali, Saiyid, Khan Bahadur, Nawab, Calcutta.
 Asphar, J. J. T. H. Esquire, Calcutta.
 Atkinson, W. S. Esquire, M. A., F. L. S., Calcutta.
 Atkinson, Lieut.-Col. F. D., Calcutta.
 †Austen, Capt. H. G., H. M.'s 24th foot Surv. Genl's. Dept., Dera
 Dhoon.
 Avdall, J. Esquire, Calcutta.
 *Baker, Col. W. E., Bengal Engineers, Europe.
 Banerjee, Rev. K. M., Calcutta.
 †Barnes, C. H. Esquire, Bhagulpore.
 †Batten, J. H. Esquire, B. C. S., Mynipore.
 †Batten, G. H. M. Esquire, B. C. S., Allyghur.
 Bayley, E. C. Esquire, B. C. S., Calcutta.
 †Bayley, S. C. Esquire, B. C. S., Patna.

- Beadon, Honorable C., B. C. S., Calcutta.
Beaufort, F. L. Esquire, B. C. S., Calcutta.
Beavan, Lieut. R. C. late 62nd B. N. I., Calcutta.
*Beckwith, J. Esquire, Europe.
Bell, H. Esquire, B. A., B. C. S., Calcutta.
*Benson, Lieut.-Col. R., Europe.
Birch, Major Genl. Sir R. J. H., K. C. B., Calcutta.
†Blaggrave, Capt. T. C. 26th Regt. B. N. I., Lahore.
Blane, Lieut.-Col. S. J., Calcutta.
*Blanford, H. F., Esquire, Geological Survey, Europe.
†Blanford, W. T. Esquire, Geological Survey, Burmah.
†Blundell, E. A. Esquire, Singapore.
*Bogle, Lieut.-Col. Sir A. Kt., Europe.
Bolie Chand Sing, Bábu, Calcutta.
†Boulnois, C. Esquire, B. A., Krishnagur.
Bowring, L. B. Esquire, B. C. S., Calcutta.
*Boycott, Dr. T., B. M. S., Europe.
Braddon, H. Esquire, Calcutta.
†Brandis, Dr. D., Rangoon.
†Brandrith, J. E. L. Esquire, Delhi.
*Brodie, Capt. T. 5th Regt. B. N. I., Europe.
Brown, J. Esquire, M. D., B. M. S., Calcutta.
†Browne, Horace A., Capt., Pegu.
Browne, Rev. J. Cave, M. A., Calcutta.
†Bunsput Sinha, Rajah, Allahabad.
*Burn, Rev. T. H., M. A., Europe.
Busheerooddeen Sultan Mohammed, Saheb, Chiusurah.
Byrne, L. F. Esquire, C. E., Calcutta.
Calcutta, Rt. Rev. Lord Bishop of, Calcutta.
†Campbell, Dr. A., Darjiling.
†Campbell, C. J. Esquire, C. E., Delhi.
†Carnac, J. H. Rivett, Esquire, B. C. S., Burdwan.
*Chapman, R. B. Esquire, B. C. S., Europe.
†Christian, J. Esquire, Monghyr.
†Cockburn, J. F. Esquire, C. E., Kurhurbali Colliery.
*Colvin, J. H. B. Esquire, B. C. S., Europe.
†Cooper, F. H. Esquire, B. C. S., Delhi.
Cowell, E. B. Esquire, M. A., Calcutta.

- Crockett, Oliver R. Esquire, Calcutta.
Crozier, Dr. William, B. M. S., Calcutta.
†Dalton, Major E. S. 9th Regt. B. N. I., Chota Nagpore.
†Davies, R. H. Esquire, B. C. S., Punjab.
Davidson, Capt. E., Bengal Engineers, Calcutta.
†Davey, N. T. Esquire, Revenue Survey, Dacca.
†De Bourbel, Capt. R., Bengal Engineers, Allahabad.
Digumber Mitra, Bábu, Calcutta.
†Denison, His Excellency, Sir William, K. C. B., Madras.
Devereux, Hon'ble H. B., B. C. S., Calcutta.
*Dickens, Lieut.-Col. C. H., Europe.
†Dodsworth, W. T. Esquire, Dera Dhoon.
Douglas, Lieut.-Col. C., Calcutta.
Drummond, Hon'ble E., B. C. S., Calcutta.
†Duhan, H. Esquire, G. T. Survey, Dera Dhoon.
†Duka, Dr. T., Monghyr.
†Earle, Capt. E. L., Bengal Artillery, Kurnal.
*Eatwell, Dr. W. C. B., Europe.
*Edgeworth, M. P. Esquire, B. C. S., Europe.
†Edmonstone, Hon'ble G. F., B. C. S., Allahabad.
*Elliott, Hon'ble Walter, M. C. S., Europe.
†Elliott, C. A. Esquire, B. C. S., Cawnpore.
*Ellis, Lieut.-Col. R. R., 23rd Regt. B. N. I., Europe.
*Elphinstone, Lieut. N. W. 4th Regt. B. N. I., Europe.
Erskine, Hon'ble C. J., Bombay C. S., Calcutta.
†Erskine, Major W. C., Jabalpur.
Fayrer, Dr. J., B. M. S., Calcutta.
Fisher, A. Esquire, Calcutta.
Fitzgerald, Capt. C. M., Calcutta.
†Fitzpatrick, D. Esquire, B. C. S., Umritsur.
Fitzwilliam, W. S. Esquire, Calcutta.
†Forlong, Capt. J. G. R., Maulmein.
†Forrest, R. Esquire, Civil Engineer, Dera Dhoon.
†Fraser, Capt. A., Alguada Reef.
Frere, Sir H. Bartle, K. C. B., Bombay C. S., Calcutta.
†Fuller, Capt. A. R., Punjab.
Futteh Ali, Maulvi, Calcutta.
†Fytche, Lieut.-Col. A., 70th Regt. B. N. I., Maulmein.

- †Gardner, D. M., Esquire, B. C. S., Furrackabad.
†Gastrell, Capt. J. E. 13th Regt. N. I. Revenue Surv., Furreedpore.
†Geoghegan, J. Esquire, B. C. S., Moorshedabad.
*Gladstone, W. Esquire, Europe.
Goodeve, E., Esquire, M. D., Calcutta.
*Gurú Churn Doss, Bábu, Jessore.
†Goss, W. Forbes, Esquire, Nya Doomkah, Beerbhoom.
Govin Chunder Sen, Bábu, Calcutta.
Grant, Hon'ble J. P., B. C. S., Calcutta.
Grant, J. P., Jr. Esquire, B. C. S., Howrah.
*Grant, T. R., Esquire, Europe.
*Grapel, W. Esquire, M. A., Europe.
†Gray, I. I., Esquire, Maldah.
Grey, W., Esquire, B. C. S., Calcutta.
†Griffin, L., Esquire, B. C. S., Lahore.
†Griffith, R. T. H., Esquire, Benares.
Grote, A., Esquire, B. C. S., F. L. S., Calcutta.
Growse, F. S., Esquire, B. C. S., Calcutta.
†Hall, F. E., Esquire, M. A., D. C. L., Saugor.
Halleur, Dr. H., Calcutta.
*Hamilton, R., Esquire, China.
*Hamilton, Sir R. N. E. Bart., B. C. S., Europe.
Hannington, Col. J. C., 63rd Regt. N. I., Calcutta.
*Hardie, Dr. G. K., Europe.
†Harris, E. B., Esquire, Civil Surgeon, Monghyr.
†Harrison, A. S., Esquire, B. A., Behar.
†Haughton, Major J. C., Port Blair.
*Hearsay, Major Genl. Sir J. B., K. C. B., Europe.
†Henessey, J. B. N., Esquire, Dera Dhoon.
†Herschel, W. J., Esquire, B. C. S., Nuddea.
*Hichens, Lieut. W., Bengal Engineers, Europe.
*Hobhouse, C. P., Esquire, B. C. S., Europe.
†Hopkinson, Major H., Assam.
†Hovenden, Major J. J., Bengal Engineers, Gwalior.
†Innes, Major J. J. M., Punjab.
†Ishureepersad Singh, Rajah, Bahadur, Benares.
†Jackson, L. S., Esquire, B. C. S., Rajshahi.
*Jackson, W. B., Esquire, B. C. S., Europe.

- Jadava Krishna Singh, Bábu, Calcutta.
Jallaluddin Mohammed, Prince of Mysore, Calcutta.
†James, Major H. C. 32nd Regt. B. N. I., Berhampore.
†James, Major H. R., C. B., Peshawur.
Jerdon, T. C., Esquire, M. M. S., Calcutta.
†Jogindra Narain Roy, Bábu, Rajshai.
*Johnstone, J., Esquire, Europe.
Jones, R., Esquire, Calcutta.
Jyogopaul Bysack, Bábu, Calcutta.
Judge, T. E. B., Esquire, Calcutta.
†Kabeerooddeen Ahmed Shah, Bahadoor, Sasseram.
Kaliprosonno Singh, Bábu, Calcutta.
Kásinath Roy Chowdry, Bábu, Calcutta.
Kay, Rev. W., D. D., Calcutta.
†Kempson, M., Esquire, M. A., Bareilly.
†Khazim Ali Mohammed, Khan Nawab, Bahadur, Rampore.
*Laidlay, J. W., Esquire, Europe.
Laing, Hon'ble S., Calcutta.
†Layard, Major F. P., Bhagulpore.
Lees, Capt. W. N., LL. D., Calcutta.
Leonard, H., Esquire, C. E., Calcutta.
*Liebig, Dr. G. Von., B. M. S., Europe.
Lindsay, E. J., Esquire, Calcutta.
†Lloyd, Capt. M., Tounghoo.
Loch, G., Esquire B. C. S., Calcutta.
*Low, Major Genl. J., Europe.
†Lumsden, Major P. S., Peshawar.
†Lushington, F. A., Esquire, B. C. S., Rajshahi.
Macfarlane, D. H., Esquire, Calcutta.
†Maclagan, Lieut.-Col. R., Lahore.
Macrae, Dr. A. C., B. M. S., Calcutta.
Mair, D. K., Esquire, Calcutta.
Manickjee Rustomjee, Esquire, Calcutta.
†Mán Singh, Maharájah, Báhadur, Oude.
†Man, E. G., Esquire, Moorshedabad.
*Marshman, J. C., Esquire, Europe.
Mazuchelli, Rev. F. F., D. D., Calcutta.
McCrindle, J. W., Esquire, M. A., Calcutta.

- †McLeod, D. F., Esquire., C. B., B. C. S., Punjab.
- †Medlicott, J. G., Esquire, B. A., Geological Survey of India.
- †Medlicott, H. B., Esquire, F. G. S., Roorkee.
- †Melville, Capt. A. B., late 67th N. I., Surveyor General's Dept., Dera Dhoon.
- *Middleton, J., Esquire, Europe.
- *Mills, A. J. M., Esquire, B. C. S., Europe.
- *Money, D. J., Esquire, B. C. S., Europe.
- Money, A., Esquire, B. C. S., Bhagulpore.
- Money, J. W. B., Esquire, Calcutta.
- †Montgomerie, Capt. T. G., B. E., F. R. G. S., Trigl. Survey, Dera Dhoon.
- †Morris, G. G., Esquire, B. C. S., Dinagepore.
- †Muir, W., Esquire, B. C. S., Allahabad.
- *Muir, J., Esquire, Europe.
- †Murray, Lieut. W. G., 68th N. I., Rawul Pindee.
- †Narendra Narain Bhupa, Mahárájah, Cooch Behar.
- †Newmarch, Major C. D., Pegu.
- †Nicholls, Capt. W. T., 24th Regt. M. N. I., Burmah.
- Nundolala Bose, Bábu, Calcutta.
- Obbard, J., Esquire, Calcutta.
- Oldham, C., Esquire, Geological Survey of India.
- Oldham, T., Esquire, LL. D., F. R. S., F. Calcutta.
- O'Shaughnessy, Sir W. B., Europe.
- *Ouseley, Major W. R., Europe.
- †Pearse, Major G. G., Segowlie.
- †Pelly, Capt. L., Bombay Army, Zanzibar.
- †Phayre, Lieut.-Col. A., Rangoon.
- †Prasunnonath Roy, Rajah Bahadoor, Degaputti, Rajshai.
- Pratápchandra Siñha, Rajah, Calcutta.
- Pratt, Ven'ble Archdeacon, J. H., M. A., Calcutta.
- Preonath Sett, Bábu, Calcutta.
- *Prinsep, C. R., Esquire, Europe.
- Prosonno Coomar Tagore, Bábu, Calcutta.
- Rádhanáth Sikdar, Bábu, Calcutta.
- Rajendra Dutt, Bábu, Calcutta.
- Rajendralál Mitra, Bábu, Calcutta.
- Ramánáth Tagore, Bábu, Calcutta.

Ramáprasád Roy, Bábu, Caleutta.

Rámgopál Ghose, Bábu, Caleutta.

†Reid, H. S., Esquire, B. C. S., Nainetal.

*Riddell, H. B., Esquire, B. C. S., Europe.

†Riley, E. O., Esquire, F. G. S., Bassein.

Ritchie, Hon'ble, W., M. A., Caleutta,

*Roberts, A., Esquire, B. C. S., Europe.

*Röer, Dr. E., Europe.

*Rogers, Capt. T. E., Europe.

Ross, Capt. W. A., 2nd Brigade, Royal Artillery, Caleutta.

†Russell, A. E., Esquire, B. C. S., Moorshedabad.

†Russell, R. H., Esquire, B. C. S., Tipperah.

Sampson, A. B., Esquire, B. A., Caleutta.

Sanders, J., Esquire, Calcutta.

†Saunders, C. B., Esquire, B. C. S., Bangalore.

†Saxton, Capt. J. H., 38th M. N. I., Cuttack.

Schiller, F., Esquire, Calcutta.

Seott, Col. E. W. S., Caleutta.

†Scott, W. H., Esquire, Dera Dhoon.

†Shelverton, G. Esquire, Dera Dhoon.

*Sherwill, Lieut.-Col., W. S., 66th Regt. B. N. I., F. G. S., F. R. G. S.,
Europe.

†Sherwill, Major J., Darjiling.

†Shumbhoo Chunder Roy, Bábu, Zeminder, Rungpur.

Simpson, Dr. B., Caleutta.

*Smith, Col. J. F., Europe.

Smith, H. Seott, Esquire, B. A., Caleutta.

†Spankie, R., Esquire, B. C. S., Futtehghur.

Stainforth, H., Esquire, B. C. S., Caleutta.

†Stanton, Capt. F. S., Bengal Engineers, Sherghotty.

*Stephen, Major, J. G., 8th N. I., Europe.

†Stewart, Major P., Bengal Engineers, N. W. Provinces.

†Stewart, Lieut. W. J., Bengal Artillery, Rev. Survey, Burrisal.

*Strachey, Lieut.-Col. R., F. R. S., F. L. S., F. G. S., Europe.

†Strachey, J., Esquire, B. C. S., Moradabad.

†Stubbs, Capt. F. W., Bengal Artillery, Rawul Pindee.

†Sudderooddeen, Moonshee, Pandooah.

†Sutherland, H. C., Esquire, B. C. S., Dacea.

- †Suttischunder Roy, Maharajah, Krishnagore.
 Sutyasharana Ghosal, Rajah, Bhokylas, Calcutta.
 Temple, R., Esquire, B. C. S., Calcutta.
 †Theobald, W., Jr., Esquire, Geological Survey of India, Allahabad.
 Thomson, J. G., Esquire, Calcutta.
 *Thomson, Dr. T., M. D., F. R. S., F. L. S., F. R. G. S., Europe.
 Thompson, Rev. J. C., Calcutta.
 †Thornhill, C. B., Esquire, B. C. S., Allahabad.
 Thuikier, Lieut.-Col. H. L., Bengal Artillery, F. R. G. S., Calcutta.
 †Tickell, Major S. R., Maulmein.
 Tremlett, J. D., Esquire, B. C. S., Calcutta.
 Trevor, C. B., Esquire, B. C. S., Calcutta.
 †Turnbull, Lieut.-Col. A. D., Roorkee.
 Tween, A., Esquire, Geological Survey, Calcutta.
 †Vanrenen, Capt. A. D., late 71st B. N. I., R. Survey, Jhansie.
 Walagohur Mohammed Sahebzadah, Calcutta.
 †Walker, Major J. T., Bombay Engineers, Mussoorie.
 *Ward, J. J., Esquire, B. C. S., Europe.
 †Warrand, R. H. M., Esquire, B. C. S., Muttra.
 *Watson, J., Esquire, B. C. S., Europe.
 Wauehope, S., Esquire, B. C. S., Calcutta.
 *Waugh, Col. A. S., Engineers, F. R. S., F. R. G. S., Europe.
 Wells, Hon'ble Sir Mordaunt, Kt., Calcutta.
 †Williams, Dr. C., H. M.'s 68th Regt., Thyet Myo.
 †Wilmot, C. W., Esquire, Pakour.
 †Wilson, W. L., Esquire, Beerbhoom.
 Woodrow, H., Esquire, M. A., Calcutta.
 *Wortley, Major A. H. P., Europe.
 *Young, Lieut.-Col. C. B., Europe.
 Yule, Lieut.-Col. H., Calcutta.

ELECTIONS IN 1861.

- Hon'ble C. J. Erskine, Bombay C. S., Calcutta.
 W. T. Dodsworth, Esq., Dera Dhoon.
 L. S. Jackson, Esq., B. C. S., Rajshahi.

Capt. H. G. Austin, H. M.'s 24th foot, Surv. Genl.'s Dept., Dera Dhoon.

Capt. A. B. Melville, late 67th N. I. Surveyor Genl.'s Dept., Dera Dhoon.

Lieut. W. J. Stewart, Bengal Artillery, R. Surv., Burrisal.

R. Forrest, Esq., Civil Engineer, Dera Dhoon.

H. Duhan, Esq., G. T. Survey, Dera Dhoon.

S. C. Bayley, Esq., B. C. S., Patna.

A. S. Harrison, Esq., B. A., Behar.

F. S. Growse, Esq., B. C. S., Calcutta.

J. Brown, Esq., M. D., B. M. S., Calcutta.

H. Bell, Esq., B. A., B. C. S., Calcutta.

Major W. E. Warrand, Calcutta.

C. Boulnois, Esq., B. A., Krishnagur.

Hon'ble S. Laing, Calcutta

Hon'ble H. B. Devereux, B. C. S., Calcutta.

N. T. Davey, Esq., Revenue Survey, Dacca.

C. H. Barnes, Esq., Bhagulpore.

J. J. Gray, Esq., Maldah.

Major P. S. Lumsden, Peshawar.

Rev. T. H. Burn, M. A., Calcutta.

T. Anderson, Esq., M. D., F. L. S., Botanic Garden, Calcutta.

Major J. T. Walker, Mussooree.

Capt. E. L. Earle, Bengal Artillery, Kurnal.

His Excellency Sir W. Denison, K. C. B., Madras.

Maharájah Mán Singh, Báhádur, Oude.

J. D. Tremlett, Esq., B. C. S., Calcutta.

Capt. L. Pelly, Bombay Army, Zanzibar.

J. J. T. H. Asphar, Esq., Calcutta.

O. R. Crockett, Esq., Calcutta.

J. W. McCrindle, Esq., M. A., Calcutta.

Nawab Mohammed Khazim Ali Khan, Báhádur, Rampore.

Lieut. R. C. Beavan, Late 62nd B. N. I., Calcutta.

L. Griffin, Esq., B. C. S., Lahore.

Capt. E. Davidson, Bengal Engineers, Calcutta.

Nawab Syud As'ghur Ali Khan, Bahadur, Calcutta.

J. F. Cockburn, Esq., C. E., Kurhurbali Colliery.

Capt. A. R. Fuller, Punjab.

Major P. Stewart, Bengal Engineers, N. W. Provinces.
 A. Tween, Esq., Geological Survey, Calcutta.
 Baboo Shumbhoo Chunder Roy, Zeminder, Rungpore.
 Dr. C. Williams, H. M.'s 68th Regt., Thyet Myo.
 Sahebzádah Mohammed Walagohur, Calcutta.
 Moonshee Sudderooddeen, Punduah.
 *Capt. M. Lloyd, Tounghoo.
 R. H. Davies, Esq., B. C. S., Punjab.
 Capt. W. A. Ross, 2nd Brigade, Royal Artillery, Calcutta.
 M. Kempson, Esq., M. A., Bareilly.
 C. B. Saunders, Esq., B. C. S., Bangalore.
 Major H. R. James, C. B., Peshawur.

CORRESPONDING MEMBER.

Dr. R. Gosche, Berlin.

LOSS OF MEMBERS DURING THE YEAR, 1861.

By retirement.

C. G. Wray, Esq., Calcutta.
 F. F. Williams, Esq., Calcutta.
 Lieut. H. Seonce, Assam.
 Lieut. W. G. Alexander, 93rd Highlanders, Pillibheet.
 Major W. E. Warrand, Calcutta.
 Rev. W. Ayerst, Calcutta.
 Major T. James, Calcutta.
 Dr. A. J. Payne, Calcutta.
 W. S. Halsey, Esq., B. C. S., Mirzápore.

By death.

G. H. Freeling, Esq., B. C. S., Bolundshur.
 Col. R. Baird Smith, C. B., Calcutta.

LIST OF HONORARY MEMBERS.

M. Garcin de Tassy, Membre de l' Institut., Paris.
 Sir John Phillippart, London.
 Count De Noe, Paris.

Prof. Francis Bopp, Memb. de l' Academie de Berlin.

Sir J. F. W. Herschel, F. R. S., London.

Col. W. H. Sykes, F. R. S., London.

Prof. Lea, Philadelphia.

Prof. C. Lassen, Bonn.

M. Reinaud, Memb. de l' Instit., Prof. de l' Arabe, Paris.

Dr. Ewald, Gottingen.

His Highness Hekekyan Bey, Egypt.

Right Hon'ble Sir Edward Ryan, Kt., London.

Prof. Jules Mohl, Memb. de l' Instit., Paris.

Col. W. Munro, London,

His Highness the Nawab Nazim of Bengal, Moorshedabad.

Dr. J. D. Hooker, F. R. S., London.

Prof. Henry, Princeton, United States.

Major General Sir Henry C. Rawlinson, K. C. B., D. C. L., F. R. S.,
F. R. G. S., London.

Col. Sir Proby T. Cautley, K. C. B., F. R. S., London.

Rájá Rádhákánta Deva, Báhádur, Calcutta.

B. H. Hodgson, Esq., Europe.

Dr. H. Falconer, F. R. S., B. M. S., Europe.

Rt. Hon'ble Sir J. W. Colville, Kt., Europe.

Prof. Max Muller, Oxford.

Mons. Stanislas Julien, Paris.

Col. Sir George Everest, C. B., F. R. S., Europe.

Dr. Robert Wight, London.

Edward Thomas, Esq., Europe.

Dr. Aloys Sprenger, Germany.

Dr. Albrecht Weber, Berlin.

LIST OF CORRESPONDING MEMBERS.

Kremer, Mons. A. Von, Alexandria.

Porter, Rev. J., Damascus.

Schlagintweit, Herr H., Berlin.

Schlagintweit, Herr R., Do.

Smith, Dr. E., Beyrout.

Tailor, J. Esq., Bussorah.

Wilson, Dr., Bombay.

Nietner, J. Esq., Colombo, Ceylon.
Haug, Dr. M., Poonah.
Bleeker, Dr. P., Batavia.
Frederick, Dr. H., Batavia.
Baker, Rev. H., Alipi, East Malabar.
Swinhoe, R. Esq., H. M. Consulate, Amoy.
Gosche, Dr. R., Berlin.

LIST OF ASSOCIATE MEMBERS.

Blyth, E. Esq., Calcutta.
Karámút Ali, Saiyid, Matawalli, Húgli.
Long, Rev. J., Calcutta.
MacGowan, Rev. J., Europe.
Stephenson, J. Esq., Europe.

FEBRUARY, 1862.

The monthly general meeting of the Asiatic Society was held on the 5th instant.

A. Grote, Esq. president, in the chair.

Presentations were received—

1. From the National Museum at Melbourne, a considerable collection of Australian birds and mammals.

2. From Mr. W. T. Blanford, some specimens of birds and fishes from Burmah.

3. From Captain W. A. Ross, a model of a tin stamping machine in use in Cornwall.

4. From the Surveyor General, several copies of a panoramic view of Kashmir, prepared by Captain T. G. Montgomerie.

5. From the Superintendent, Geological Survey of India, a copy of the memoirs of the Survey, containing the first part of "*Palæontologia Indica*."

6. From the widow of the late Mr. G. H. Freeling, through Captain Davidson, Vols. 3, 4, 9, 10, 11, 12, 13 and 19, of the *Journal of the Asiatic Society*.

7. From the Superintendent of the Barrackpore Park Menagerie, a dead Giraffe.

8. From M. Biot, through Reverend J. Carbonel, copies of his work on Indian Astronomy and his Review of Reverend Mr. Burgess' translation of the *Surya Siddhanta*.

9. From the Bombay Royal Asiatic Society, a copy of the *Journal*, Vol. VI. No. 21 of the Society.

10. From Mr. W. Matthews, through Capt. J. R. Pollock, a small collection of coins.

11. From Nawab Mehdee Ali Khan Bahadoor, a copy of *Diwan Nazim*, by His Highness Mohammed Yusoof Ali Khan of Rampore, K. S. I.

12. From the Bombay Government, a copy of the *Magnetical and Meteorological Observations* made at the Bombay Observatory in 1860.

13. From the Syndicate of the Cambridge Observatory, a copy of *Astronomical observations* made at the Cambridge Observatory for the years 1852, 1853, and 1854.

Rev. J. Long exhibited an image of Buddha found in some railway excavations near Monghyr.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members:—

Col. H. Torrens, Capt. E. Smyth, Baboo Gour Doss Bysack, and Col. C. S. Guthrie.

The following gentlemen were named for ballot as ordinary members at the next meeting:—

Dr. F. N. Macnamara, professor of Chemistry, Medical College, proposed by Mr. Atkinson, seconded by the President.

Lieut. J. Johnstone, Asst. Commissioner, Punjab, proposed by Mr. Bayley, seconded by the President.

Capt. D. G. Robinson, Bengal Engineers, proposed by Major Walker, seconded by Mr. Atkinson.

Capt. de la Chaumette, Royal Artillery, proposed by Mr. Atkinson, seconded by the President.

The Council proposed A. Murray, Esq., Secretary, Royal Horticultural Society of London, as a corresponding member.

The Council submitted the following report:—

“The Council beg to recommend that the Sutras of Jaimini should be published in the *Bibl. Indica* with Sabara’s commentary. Pundit Moheshchunder Nya Ratna has undertaken to edit it; the work will occupy not more than seven Fasciculi. During the past year we have published an edition of the *Vais’eshika* Sutras, and the present work will supply another *desideratum* in the ancient philosophy of India. The *Purva Mimánsa* has hitherto remained almost untouched by European scholarship, and we are sure that the publication of Jaimini’s Sutras will be welcomed in Europe as well as in India.”

The report was adopted.

The Council reported that they had appointed the following Sub-Committees for 1862.

FINANCE.

Babu Rajendralal Mitra and Dr. W. Crozier.

PHILOLOGY.

Babu Rajendralal Mitra; Capt. W. N. Lees; F. E. Hall, Esq.; E. C. Bayley, Esq.; Hon’ble C. J. Erskine and R. T. H. Griffith, Esq.

LIBRARY.

Babus Rajendralal Mitra and Ramaprasad Roy; Capt. W. N. Lees; Dr. J. Fayrer; R. Jones, Esq.; and Dr. T. Anderson.

NATURAL HISTORY.

T. Oldham, Esq.; Dr. W. Crozier; Dr. T. Anderson; Dr. A. C. Macrae; W. Theobald, Esq., Jr.; J. G. Medlicott, Esq.; and Dr. J. Fayrer.

METEOROLOGY AND PHYSICAL SCIENCES.

The Ven'ble J. H. Pratt; Lieut.-Col. H. L. Thuillier; Babu Radha Nath Sikdar; T. Oldham, Esq.; Dr. H. Halleur; and J. Obbard, Esq.

COIN COMMITTEE.

Babu Rajendralal Mitra; E. C. Bayley, Esq.; and Capt. W. N. Lees.

Communications were received—

1. From Major J. T. Walker, a paper on the Trigonometrical Survey of India.

2. From Babu Radha Nath Sikdar, Abstracts of Meteorological Observations taken at the Surveyor General's Office in July and August last.

Major Walker read a paper on recent additions to our geographical knowledge of districts bordering on the British frontier Trans-Indus.

He pointed out that there is a large tract of country west of the Soolimani range, and south of the Soofaid Koh, which lies beyond the reach of the topographical surveys of the Trans-Indus frontier and the route surveys between Khelat and Kabul, and is shown on all extant maps of the Punjab and Affghanistan as a *terra incognita*. It extends over 5° of latitude, and averages 2° in longitude, including an area of 50,000 square miles, which is nearly equal to that of England. The inhabitants are various tribes of Pathans and Beloochies, who are particularly suspicious of Europeans and jealous of admitting them into their country.

In 1840 Lieut. Broadfoot of the Engineers marched from Ghizni to Dera Ismail Khan, by the route along the course of the Gomul river. But it is believed that he travelled in disguise with a Kafila of Powin Das, or native merchants, and could not obtain more information of the country than an itinerary, which was necessarily meagre, because executed without instruments, and dependant only on estimated bearings and distances.

During the sixteen subsequent years no opportunity appears to have offered of obtaining additional information of these countries

from actual survey. But towards the end of 1856, it became necessary for the Punjab force, commanded by General Chamberlain, to proceed into the Koorum valley, in order to effect the restitution of property stolen by its inhabitants from British subjects. This valley lies on the direct road from Kohat to Ghizni, at the foot of the southern slopes of Soofaid Koh range. The inhabitants are chiefly Tooree Pathans, who are subject to the ruler of Kabul, and pay him revenue when he can send a force strong enough to collect it. His agents accompanied the expeditionary force, and are believed to have availed themselves of the opportunity to collect their master's dues under threats that they would otherwise turn the British troops against the recusants. The whole valley was peaceably surveyed as far west as the Paiwar pass immediately below the Seekaram mountain, the culminating point of the Soofaid Koh range, where it rises to an elevation of 15,640 feet above the sea. The pass is not on the watershed of the range, but is merely where the road crosses a large spur which can be avoided altogether by a circuitous route, through the Chum Kanni district to the south. It is about 7000 feet high, and derives its importance more from the populous and wealthy town of Paiwar at its foot than from its elevation. The Koorum river rises about 60 miles farther west among the Zoormut valleys, where the Soolimani range abuts at right angles against the Soofaid Koh.

In the spring of 1857, Col. Lumsden, his brother, and Dr. Bellew, started on their memorable expedition to Kandahar. Crossing the Paiwar Spur, they descended into the Kurryab valley occupied by Pathan Tribes of Jajis and Munguls until they reached the Hazardarakht Nuddi; or stream of the thousand trees, one of the principal confluent of the Koorum river. Following this to its source, they arrived at length at the Shooturguridan or camel neck pass at a height of 11,400 feet, on the watershed which parts Jellalabad, Kabul and Ghizni from Kohat, Koorum and Wuzeeristan.

From this elevation they descended westwards through the valleys of the Sooliman Khel Ghilzies into the plains at the head of the Logur valley, south of Kabul, whence it is but four marches to Shekhabad and Saidabad on the main road between Kabul and Ghizni.

In the autumn of 1859, and again in the spring of the following year, the Punjab force under the command of General Chamberlain, was required to operate against the Wuzceries to check their propen-

sities for making raids into British territories. On the first occasion, the country of the Durwesh Khels was entered, and on the second that of the Mashoods. These are the two principal branches of the powerful Wuzeeri tribe, and are bounded, the former by Koorum Khost Zadran and the British frontier from Thull *viâ* Bunnoo to Noorum; the latter by the Gomul river and our frontier from Noorur to Gomul *viâ* the Bihin Durra and the town of Tâk.

During the course of the operations against these tribes, much valuable information was acquired, more particularly of the geography of the country as shown in the maps exhibited to the Society.

A glance at the map is sufficient to explain the plundering propensities of the Wuzeeries. The irrigated lands on which they chiefly depend for their cereals are merely narrow fillets on the edges, and often in the beds of the principal water-courses. Their united area probably does not amount to more than two or three per cent. of the whole district. There is no wonder, therefore, that the fanatic Mussulman mountaineers should readily bring themselves to believe, that there is a wild justice in their favourite pastime of plundering the inhabitants of the rich plains at their feet, and a duty they owe their families in obtaining forcible restitution of the rights which Heaven must have intended for Mussulmans rather than Hindoos, and for stalwart highlanders rather than the puny inhabitants of the plains. The rivers even when of considerable length, are usually dry for the greater portion of the year. There is little moisture to feed them in their parent mountains which are insignificant in mass and altitude compared with the Himalayas, are nearer the tropics and dessicated by heat radiated from the extensive plains east and west. Vegetation is scarce, the soil is dry and arid, pine trees are not to be met with at a lower elevation than 9000 feet, and the climate of any given altitude would find its equivalent in the Himalaya as 2 or 3000 feet nearer the sea level.

The thanks of the meeting were voted to Major Walker for his interesting communication.

The Curator submitted his report, in which were recorded numerous presentations to the Society's Museum, and exhibited a large series of the skulls of the Asiatic species of Rhinoceros. His remarks on this genus of *pachyderms* have since been embodied in a Memoir for publication in the Society's Journal. The true *Rhinoceros indicus*, it was

shewn, appeared to be peculiar to the *tarai* region at the foot of the Himalayas, and valley of the Brahmaputra river; the single-horned Rhinoceros of the Rajmahal hills, of the Bengal Sundarbáns, of the Indo-Chinese region and Malayan peninsula, being identical with *Rh. sondaicus* of Java and Borneo. The Asiatic two-horned species, *Rh. Sumatranus*, according to Mr. Blyth, was even more numerous in the Burmese countries than *Rh. sondaicus*; the range of this species extending northward at least to the latitude of Ramri island, upon the Ya-ma-doung range which separates the province of Arakan from that of Pegu (or the valley of the Irawádi). The Society's museum, as yet, contains not a single specimen of *Rh. indicus*; although abundantly supplied with skulls and other specimens of *Rh. sondaicus* and *Rh. Sumatranus*.

FOR MARCH, 1862.

The monthly general meeting of the Asiatic Society was held on the 5th instant.

A. Grote, Esq., President, in the chair.

Presentations were received.

1. From Dr. T. Duka, through Babu Rajendralal Mitra, two specimens of impressions in baked clay of seals of the Buddhist creed found in an ancient *Chaitya* near Sultangunj, midway between Bhaulgapore and Monghyr.

2. From Captain F. W. Stubbs, a considerable collection of fossil remains of mammalia, and shells from the salt range in the Punjab.

3. From the Under-Secretary, Government of India, two copies of an Andamanese vocabulary.

4. From Dr. Brandis, through Captain P. H. Power, two copies of a list of specimens of some Burman woods sent to England for the International Exhibition of 1862.

5. From the Secretary Smithsonian Institution several Nos. of the Transactions, Reports, and other publications of the Institution.

6. From the Royal University of Norway, several publications of the University.

7. From Dr. T. Anderson specimens of several species of fish.

Read a letter from the Under-Secretary, Government of India, forwarding copy of a letter from the Right Honorable the Secretary of State for India declining to comply with the request of the Society

that the Zoological catalogues of the India House Museum might be proceeded with.

The following gentlemen duly proposed at the last meeting were balloted for and elected ordinary members :—

Dr. F. N. Macnamara, Lieut. J. Johnstone, Capt. D. G. Robinson, Bengal Engineers, Capt. de la Chaumette, Royal Artillery.

Mr. A. Murray, Secretary Royal Horticultural Society of London, was also balloted for and elected a corresponding member.

The following gentlemen were named for ballot at the next meeting.

C. U. Aitchison, Esq., C. S., proposed by Mr. Bayley, seconded by Mr. Cowell.

F. A. E. Dalrymple, Esq., C. S., proposed by the President, seconded by Babu Ramaprasad Roy.

Lieut.-Col. H. W. Norman, C. B., Secretary, Government of India, Military Department, proposed by Colonel F. D. Atkinson, seconded by Mr. Atkinson.

Babu Rajkissen Roy, Zemindar of Berhampore, proposed by Babu Gour Doss Bysack, seconded by Mr. Atkinson.

J. A. P. Collis, Esq., M. D., proposed by Capt. F. W. Stubbs, seconded by Mr. Atkinson.

E. G. Glazier, Esq., C. S., proposed by the President, seconded by Mr. Atkinson.

Major H. Raban, Bengal Army, proposed by the President, seconded by Mr. Atkinson.

Communications were received.

1. From the Secretary, Government of India, Public Works Department, the following papers, connected with the appointment of Colonel A. Cunningham, to investigate the antiquities of Behar and other parts of Upper India.

From LIEUT.-COL. H. YULE,

Secy. to the Govt. of India.

TO THE PRESIDENT OF THE ASIATIC SOCIETY,

Public Works Department,

Fort William, 21st February, 1862.

General.

Antiquities.

SIR,—I am directed by His Excellency the Governor-General in Council, to transmit for the information of the Society and for

publication in their Journal, papers connected with the appointment of Colonel Alexander Cunningham, to the investigation of antiquities of Behar and other parts of Upper India, a task for which he is known to be very highly qualified.

2. Colonel Cunningham has been at work in South Behar since the early part of December, and it is believed that his researches have already been rewarded by some important identifications of localities, mentioned in the ancient Buddhist writings.

I have, &c.,

(Sd.) H. YULE, Lieut.-Colonel,

Secy. to the Govt. of India.

Dated 22nd January, 1862.

Minute by the Right Hon'ble the Governor General of India in Council on the Antiquities of Upper India.

In November last, when at Allahabad, I had communications with Colonel A. Cunningham, then the Chief Engineer of the N. W. Provinces, regarding an investigation of the archæological remains of Upper India.

It is impossible to pass through that part, or indeed, so far as my experience goes, any part, of the British territories in India without being struck by the neglect with which the greater portion of the architectural remains, and of the traces of by-gone civilization have been treated, though many of these and some which have had least notice are full of beauty and interest.

By "neglect" I do not mean only the omission to restore them, or even to arrest their decay; for this would be a task, which in many cases, would require an expenditure of labour and money, far greater than any Government of India could reasonably bestow upon it.

But so far as the Government is concerned, there has been neglect of a much cheaper duty; that of investigating and placing on record, for the instruction of future generations, many particulars that might still be rescued from oblivion, and throw light upon the early history of England's great dependency; a history which, as time moves on, as the country becomes more easily accessible, and traversable, and as Englishmen are led to give more thought to India than such as barely suffices to hold it and govern it, will assuredly occupy, more and more, the attention of the intelligent and enquiring classes in European countries.

It will not be to our credit, as an enlightened ruling power, if we continue to allow such fields of investigation, as the remains of the old Buddhist capital in Behar, the plains round Delhi, studded with ruins more thickly than even the Campagna of Rome, and many others, to remain without more examination than they have hitherto received. Everything that has hitherto been done in this way, has been done by private persons, imperfectly and without system. It is impossible not to feel, that there are European Governments, which, if they had held our rule in India, would not have allowed this to be said.

It is true that in 1844, on a representation from the Royal Asiatic Society, and in 1847, in accordance with detailed suggestions from Lord Hardinge, the Court of Directors gave a liberal sanction to certain arrangements for examining, delineating, and recording some of the chief antiquities of India. But for one reason or another, mainly perhaps owing to the Officer entrusted with the task having other work to do, and owing to his early death, very little seems to have resulted from this endeavour. A few drawings of antiquities, and some remains, were transmitted to the India House, and some fifteen or twenty papers were contributed by Major Kittoe and Major Cunningham to the Journals of the Asiatic Society; but, so far as the Government is concerned, the scheme appears to have been lost sight of within two or three years of its adoption.

I enclose a memorandum drawn up by Col. Cunningham, who has, more than any other Officer on this side of India, made the antiquities of the country his study, and who has here sketched the course of proceeding which a more complete and systematic archæological investigation should, in his opinion, take.

I think it good,—and none the worse for being a beginning on a moderate scale. It will certainly cost very little in itself, and will commit the Government to no future or unforeseen expense. For it does not contemplate the spending of any money upon repairs and preservation. This, when done at all, should be done upon a separate and full consideration of any case which may seem to claim it. What is aimed at is an accurate description, illustrated by plans, measurements, drawings or photographs, and by copies of inscriptions, of such remains as most deserve notice with the history of them so far as it may be traceable, and a record of the traditions that are retained regarding them.

I propose that the work be entrusted to Colonel Cunningham, with the understanding that it continue during the present and the following cold season, by which time a fair judgment of its utility and interest may be formed. It may then be persevered in, and expanded, or otherwise dealt with as may seem good at the time.

Colonel Cunningham should receive Rs. 450 a month with Rs. 250 when in the field to defray the cost of making surveys and measurements and of other mechanical assistance. If something more should be necessary to obtain the services of a Native subordinate of the Medical or Public Works Department competent to take photographic views, it should be given.

It would be premature to determine how the results of Colonel Cunningham's labours should be dealt with, but whilst the Government would of course retain a proprietary right in them for its own purposes, I recommend that the interests of Colonel Cunningham should be considered in the terms upon which they may be furnished to the public.

Memorandum by Colonel A. Cunningham, of Engineers, regarding a proposed investigation of the Archæological remains of Upper India.

During the one hundred years of British dominion in India, the Government has done little or nothing towards the preservation of its ancient monuments which, in the almost total absence of any written history, form the only reliable sources of information as to the early condition of the country. Some of these monuments have already endured for ages, and are likely to last for ages still to come; but there are many others which are daily suffering from the effects of time, and which must soon disappear altogether, unless preserved by the accurate drawings and faithful descriptions of the archæologist.

2. All that has hitherto been done towards the illustration of ancient Indian history has been due to the unaided efforts of private individuals. These researches consequently have always been desultory and unconnected, and frequently incomplete, owing partly to the short stay which individual officers usually make at any particular place, and partly to the limited leisure which could be devoted to such pursuits.

3. Hitherto the Government has been chiefly occupied with

the extension and consolidation of Empire ; but the establishment of the Trigonometrical Survey shows that it has not been unmindful of the claims of science. It would redound equally to the honor of the British Government to institute a careful and systematic investigation of all the existing monuments of ancient India.

4. In describing the ancient geography of India, the elder Pliny, for the sake of clearness, follows the footsteps of Alexander the Great. For a similar reason, in the present proposed investigation, I would follow the footsteps of the Chinese pilgrim Houen Thsang, who in the 7th century of our era, traversed India from west to east and back again, for the purpose of visiting all the famous sites of Buddhist history and tradition. In the account of his travels, although the Buddhist remains are described in most detail with all their attendant legends and traditions, yet the numbers and appearance of the Brahminical temples are also noted, and the travels of the Chinese pilgrim thus hold the same place in the history of India, which those of Pausanias hold in the history of Greece.

5. In the North Western Provinces and Behar the principal places to be visited and examined are the following, which are also shown in the accompanying sketch map :—

I. *Khalsi*, on the Jumna, where the river leaves the hills. At this place there still exists a large boulder stone, covered with one of Asoka's inscriptions, in which the names of Antiochus, Ptolemy, Antigonus, Magas, and Alexander are all recorded. This portion of the inscription, which on the rock of Kapurdigiri (in the Yusufzai plain,) and of Dhauli (in Cuttack) is much mutilated and abraded, is here in perfect preservation. A copy of this inscription and an account of the ruins would therefore be valuable.

II. *Hurdwar*, on the Ganges, with the opposite city of Mayurpoora.

III. *Mundore*, *Sumbhul*, and *Saswan*, in Rohilkund.

IV. *Karsana* near Khasgunj.

V. *Sunkissa*, between Mynpoorie and Futtehgurh, where it is known that many remains of Buddhism still exist. This was one of the most sacred places amongst the Buddhists.

VI. *Muttra*.—In one of the ancient mounds outside the city, the remains of a large monastery have been lately discovered. Numer-

ous statues, sculptured pillars, and inscribed bases of columns have been brought to light. Amongst these inscriptions, some, which are dated in an unknown era, are of special interest and value. They belong most probably to the first century of the Christian era and one of them records the name of the great King Huveshka, who is presumed to be the same as the Indo-Scythian King Hushka.

VII. *Delhi*.—The Hindoo remains of Delhi are few but interesting. The stone pillars of Asoka and the iron pillar are well known, but the other remains have not yet been described, although none have been more frequently visited than the magnificent ruined cloisters around the Kutb Minar, which belong to the period of the great Tuär dynasty.

VIII. *Kanauj*.—No account of the ruins of this once celebrated capital has yet been published. Several ruins are known to exist, but it may be presumed that many more would be brought to light by a careful survey of the site.

IX. *Kansambi*.—On the Jumna 30 miles above Allahabad. The true position of this once famous city has only lately been ascertained. It has not yet been visited, but it may be confidently expected that its remains would well repay examination.

X. *Allahabad*.—The only existing relics of antiquity that I am aware of are the well known Pillar of Asoka and the holy tree in one of the underground apartments of the Fort. Many buildings once existed, but I am afraid that they were all destroyed to furnish materials for the erection of the Fort in the reign of Akber.

XI. To the south of Allahabad there are the ruins of *Kajráha* and *Mahoba*, the two capitals of the ancient Chandel Rajas of Bundelkund. The remains at *Kajráha* are more numerous and in better preservation than those of any other ancient city that I have seen. Several long and important inscriptions still exist which give a complete genealogy of the Chandel dynasty for about 400 years.

XII. *Benares*.—The magnificent Tope of Sarnath is well known; but no description of the Tope, nor of the ruins around it, has yet been published. At a short distance from Benares is the inscribed pillar of Bhitari, which requires to be re-examined.

XIII. *Jaunpoor*.—Although the existing remains at this place are Mahomedan, yet it is well known that the principal buildings were originally Hindoo temples, of which the cloisters still remain almost

unaltered. These ruins have not yet been described, but from my own success, in the beginning of this year, in discovering a Sanskrit inscription built into one of the arches I believe that a careful examination would be rewarded with further discoveries of interest illustrative of the great Rathor dynasty of Kanouj.

XIV. *Fyzabad*.—The ruins of Ajoodhya have not been described. Numerous very ancient coins are found on the site, and several ruined mounds are known to exist there; but no account has yet been published. As the birth-place of Ráma, and as the scene of one of the early events in Buddha's life, Ajoodhya has always been held equally sacred, both by Brahmins and by Buddhists, and I feel satisfied that a systematic examination of its ruins would be rewarded by the discovery of many objects of interest.

XV. *Srāvasti*.—Even the site of this once celebrated city is unknown, but it may be looked for between Fyzabad and Goruckpoor.

XVI. *Kapilavastu*.—The birth-place of Buddha, was held in special veneration by his followers; but its site is unknown.

XVII. *Kusinagara*.—The scene of Buddha's death, was one of the most holy places in India in the estimation of Buddhists; but its site is at present unknown. It may, however, confidently be looked for along the line of the Gunduk river. At *Kapila* and *Kusinagara*, the scenes of Buddha's birth and death, numerous Topes and state-ly monasteries once existed, to attest the pious munificence of his votaries. The ruins of many of these buildings must still exist, and would no doubt reward a careful search. At *Mathiah Rádhiak*, and *Bakra*, in Tirhoot, stone pillars still remain, and in other places ruined Topes were seen by Major Kittoe; but no description of these remains has yet been made known.

XVIII. *Vaisáli*.—This city was the scene of the second Buddhist synod, and was one of the chief places of note amongst Buddhists. At Bassar, to the north of Patna, one Tope is known to exist, but no search has yet been made for other remains. The people of Vaisáli were known to Ptolemy, who calls them Passalæ.

XIX. *Patna*, the ancient Palibothra.—I am not aware that there are any existing remains at Patna, but numerous coins, gems, and seals are annually found in the bed of the river.

XX. *Rajagriha*, between Patna and Gaya, was the capital of Magadha, in the time of Buddha. Some of the principal scenes of

his life occurred in its neighbourhood, and the place was consequently held in very great veneration by all Buddhists. Every hill and every stream had been made holy by Buddha's presence, and the whole country around Rajagriha was covered with buildings to commemorate the principal events of his life. Numerous ruined Topes, sculptured friezes, and inscribed pillars still remain scattered over the country, as lasting proofs of the high veneration in which this religious capital of Buddhism was held by the people.

6. In this rapid sketch of the places that seem worthy of examination, I have confined myself entirely to the N. W. Provinces and Behar, as containing most of the cities celebrated in the ancient history of India. But to make this account of Indian archæological remains more complete, it would be necessary to examine the ancient cities of the Punjab, such as Taxila, Sakala, and Jalandher on the west, the caves and inscribed rocks of Cuttack and Orissa on the east, and the Topes and other remains of Ujain and Bhilsa, with the caves of Dhumnar and Kholvee in Central India.

7. I believe that it would be possible to make a careful examination of all the places which I have noted during two cold seasons. The first season might be devoted to a survey of Gaya and Rajagriha, and of all the remains in Tirhoot to the eastward of Benares and Goruckpoor; while the survey of all to the westward of Benares would occupy the second season.

8. I would attach to the description of each place a general survey of the site, showing clearly the positions of all the existing remains, with a ground plan of every building or ruin of special note, accompanied by drawings and sections of all objects of interest. It would be desirable also to have photographic views of many of the remains, both of architecture and of sculpture; but to obtain these it would be necessary to have the services of a photographer. Careful fac-similes of all inscriptions would of course be made; ancient coins would also be collected on each site, and all the local traditions would be noted down and compared. The description of each place, with all its accompanying drawings and illustrations, would be complete in itself, and the whole, when finished, would furnish a detailed and accurate account of the archæological remains of Upper India.

From LIEUT.-COL. H. YULE,

Secy. to the Govt. of India.

To COL. A. CUNNINGHAM, Engineers,

Public Works Department,

Fort William, 31st January, 1862.

General.

SIR,—With reference to what passed at your interview with His Excellency the Viceroy at Allahabad in November last, and past demi-official correspondence, His Excellency the Governor General in Council has been pleased to appoint you Archæological Surveyor to the Government of India with effect from the 1st December last.

2. Whilst so employed, you will receive a staff salary of Rs. 450 a month in addition to the pay and allowances of your rank.

3. You will also be at liberty to expend money not exceeding Rs. 250 in any one month, on account of measurements, excavations, drawing, and minor mechanical assistance, for which and for your allowances you can submit monthly contingent bills to the Controller and Examiner, Bengal.

4. The course of your investigations will be that sketched out in the Memorandum which you submitted to His Excellency the Governor-General, passing from South Behar into Tirhoot, Goruckpoor, and Fyzabad.

5. I am to request that you will be good enough to furnish this Department regularly with a brief monthly statement of the localities and general character of the objects that have occupied you during the month.

I have, &c.,

(Sd.) H. YULE, *Lieut.-Colonel,*

Secy. to the Govt. of India,

From LIEUT.-COL. H. YULE,

Secy. to the Govt of India.

To COL. A. CUNNINGHAM,

Archæological Surveyor to the Govt. of India.

Public Works Department,

Fort William, 21st February, 1862.

General.

Antiquities.

SIR,—I am directed to send for your use two printed copies of

your own Memo. on the investigation of the archæological remains of Upper India, and of the Governor General's Minute on the subject. These papers have been communicated to the Asiatic Society for publication in their Journal.

2. Whilst looking up former records in connexion with archæological investigation, an endeavour was made, both in the Home Department here, and by a reference to Allahabad, to trace the reports of Major Kittoe's investigations, whilst he was employed on a duty resembling your own, between 1847 and his death. Though it appears from the records that Major Kittoe made several journeys in Behar, made many sketches, and had drawings in preparation, no trace is found of the submission of any report of his operations or their result, nor of the drawings which were prepared.

3. It is possible that you may be able to throw some light on the matter from your personal knowledge, and this the Government would be glad to receive. But the fact as it stands is extremely unsatisfactory; and it makes it necessary that the Governor-General in Council should desire you to consider it nothing less than an absolute duty to submit full particulars of your researches, and of their results, so far as they may have been arrived at, as speedily as possible after the close of each season in the field, and *certainly* before the commencement of the next.

I have, &c.,

(Sd.) H. YULE, *Lieut.-Colonel*,

Secy. to the Govt. of India.

2. From Mr. Blyth, a memoir on the living Asiatic species of Rhinoceros.

3. From Babu Radha Nath Sikdar, abstracts of Meteorological Observations taken at the Surveyor General's office in the month of September last.

4. From Mr. W. T. Blauford, a paper containing an account of a visit to Puppadoung, an extinct volcano in Upper Burmah.

This paper was read by Mr. Oldham, who added some remarks on the geological features described, and pointed out the interest of the discovery and of the deductions Mr. Blanford had drawn from it.

5. From Rev. K. M. Banerjea, a dissertation on the Márkan-deya Purána.

The dissertation will appear as a preface to Mr. Banerjea's

edition of the Márkandeya Purána now in course of publication in the Bibl. Indica. It was read to the meeting, and a vote of thanks was given to the author.

The Librarian submitted his report of the accessions to the Library since the Meeting in December last.

The following books and periodicals have been added to the Library since the meeting in December last.

Presented.

Etudes sur L'Astronomie Indienne, Par M. Biot, (Etrait du Journal des Savants).—BY THE AUTHOR.

Traduction du Surya-Siddhanta, Par M. Biot.—BY THE SAME.

Brata-Joeda, Door A. B. Cohen Stuart, 2 Vols.—BY THE BATAVIAN ACADEMY.

Memoirs of the Geological Survey of India, (Palæontologia Indica).—BY THE SUPERINTENDENT GEOL. SURVEY OF INDIA.

Journal Bombay Royal Asiatic Society, Vol. 6, No. 21.—BY THE SOCIETY.

Annals of Indian Administration, Parts 3 and 4 of Vol. 5, for Sept. and Dec. 1861.—BY THE BENGAL GOVERNMENT.

Annual Report of the Branch of the Marine Department under control of the Government of India, for 1860-61.—BY THE SAME.

Magnetical and Meteorological Observations made at the Government Observatory, Bombay in 1860.—BY THE BOMBAY GOVERNMENT.

Vividhārtha Sangraha, Nos. 77 and 78.—BY THE EDITOR.

Die Lieder des Hafis, Vol. 3, Part 3. By Professor Hermann Brockhaus.—BY THE AUTHOR.

The Calcutta Christian Observer for December, January and February.—BY THE EDITOR.

Notes on Medical Cinchona Barks of New Granada. By H. Karsten.—BY THE MADRAS GOVERNMENT.

Diwan Nazim.—BY NAWAB MEHDEE ALI KHAN, BAHADUR.

Cours D'Hindoustani, being a Discourse by M. GARCIN DE TASSY.—BY THE AUTHOR.

Journal Asiatique, Tome XVIII., No. 70.—BY THE PARIS SOCIETY.

Journal of the American Oriental Society, Vol. 6, No. 1.—BY THE SOCIETY.

Journal of the Academy of Natural Sciences of Philadelphia, Vol. 3, Part 3.—BY THE ACADEMY.

Panoramic Views of Kashmir drawn by Capt. T. G. Montgomerie, 3 copies.—BY THE SURVEYOR GENERAL OF INDIA.

Notices of the Proceedings at the Meetings of the Members of the Royal Institution of Great Britain, Part XI. 1860-61.—BY THE INSTITUTION.

A List of Members, Officers, &c. of the Royal Institution of Great Britain, for 1860.—BY THE SAME.

The Oriental Baptist for December, January and February.—BY THE EDITOR.

The Oriental Christian Spectator for October, November and December.—BY THE EDITOR.

Proceedings of the Royal Society of London, Vol. 11, No. 46.—BY THE SOCIETY.

Report of the Committee of the Bengal Chamber of Commerce, from 1st May to 31st October, 1861.—BY THE CHAMBER.

An Introduction to Indian Meteorology, By Babu R. N. Sikdar.—BY THE AUTHOR.

Report on the Administration of the N. W. Provinces, for 1860-61.—BY THE BENGAL GOVERNMENT.

Report of the British Association for the advancement of Science, Oxford, 1860.—BY THE ASSOCIATION.

Selections from the Records of the Bombay Government, No. LXI. New Series, with 20 sheets of Sketches to illustrate Capt. Chambers' Report on Irrigation from the Taptee River, contained in them.—BY THE GOVERNMENT OF INDIA.

Selections from the Records of the Government of India, Foreign Department, No. 29, containing Progress Report of the Forests of the Tenasserim and Martaban Provinces for 1858-59 and 1859-60.—BY THE SAME.

Selections from the Records of the Madras Government, No. 71, containing Administration Report of the Madras Public Works for 1860-61.—BY THE MADRAS GOVT.

Selections from the Records of the Government of India, Military Department, No. 2, containing Report on the extent and nature of the Sanitary Establishments for European troops in the Bengal, Madras and Bombay Presidencies.—BY THE GOVERNMENT OF INDIA.

Weber's Indische Studien, Vol. VI.—BY THE AUTHOR.

Zeitschrift der Deutschen Morgenlandischen Gesellschaft, Vol. 15, Parts 3 and 4.—BY THE SOCIETY.

Annals of the Lyceum of Natural History of New York, Vol. 7, Nos. 1 to 9.—BY THE LYCEUM.

Defence of Dr. Gould by the Scientific Council of the Dudley Observatory.—BY THE TRUSTEES OF THE OBSERVATORY.

Reply to the "Statement of the Trustees" of the Dudley Observatory, by BENJ. A. GOULD, JR.—BY THE SAME.

Smithsonian Miscellaneous Collections,—Tables, Meteorological and Physical.—BY THE S. INSTITUTION.

Meteorology in its connection with Agriculture, by Prof. J. Henry.—BY THE AUTHOR.

Journal of the Academy of Natural Sciences of Philadelphia, Vol. III. Part 3 and Vol. IV. Part 4.—BY THE ACADEMY.

Report on Insanity and Idiocy in Massachusetts. By Dr. E. Jarvis.—BY THE AUTHOR.

Memoirs of the Historical Society of Pennsylvania, Vols. 5 and 6.—BY THE SOCIETY.

First and second Report of a Geological Reconnoissance of the northern, middle and southern counties of Arkansas, for 1857, '58, '59 and '60.—BY THE GOVERNOR OF ARKANSAS.

Proceedings of the American Academy of Arts and Sciences, Vol. 3, from May 1852 to May 1857.—BY THE ACADEMY.

Ditto of the Semi-Annual Meeting of the American Oriental Society.—BY THE SOCIETY.

Proceedings of the Academy of Natural Sciences of Philadelphia, from January to December, 1856.—BY THE ACADEMY.

Report on the Geological Survey of the State of Iowa, Parts 1 and 2.—BY THE GOVERNOR OF IOWA.

Statistical Report on the sickness and mortality in the U. States, from 1855 to January 1860.—BY THE SECRETARY OF WAR, U. States.

Report of the Superintendent of the U. S. Coast Survey for 1856.—BY PROF. BACHE, Supdt. U. S. Coast Survey.

Smithsonian Contributions to Knowledge, Vols. 9, 11 and 12.—BY THE S. INSTITUTION.

Annual Report of the Board of Regents of the Smithsonian Institution, for 1856, 1857, 1858 and 1859.—BY THE SAME.

An account of the Smithsonian Institution, its founder, building, operations, &c. By W. J. Rhees.—BY THE SAME.

The Transactions of the Academy of Science of St. Louis, Vol. 1, No. 4.—BY THE SAME.

Astronomical Observations made at the Observatory of Cambridge. By the Rev. James Challis, M. A., F. R. S., &c. Vol. XIX. For the years 1852, 1853 and 1854.—BY THE SYNDICATE OF THE OBSERVATORY.

Annual Report of the Administration of the Bombay Presidency, for 1860-61.—BY THE BENGAL GOVERNMENT.

Selections from the Records of the Government of India, Public Works Department, No. 35, containing Reports on the Teak Forests in Pegu and the Tenasserim and Martaban Provinces, for 1860-61.—BY THE GOVERNMENT OF INDIA.

Andamanese Vocabulary and Phraseology, 2 copies.—BY THE SAME.

Act of Incorporation and Bye-Laws of the Academy of Natural Sciences of Philadelphia.—BY THE ACADEMY.

Catalogue of Human Crania in the Collection of the Academy of Natural Sciences of Philadelphia. By J. A. Meigs.—BY THE SAME.

Om Krodo, en sachsisk Afgud. Af C. A. Holmboe, Christiania, 1861.—BY THE AUTHOR.

Om Helleristninger. Af C. A. Holmboe.—BY THE SAME.

Om Hedenske Korsmonumenter af C. A. Holmboe.—BY THE SAME.

Beretning om Bodsføngslets virksomhed i Aaret 1860.—BY THE CHRISTIANIA UNIVERSITY.

Beretning om det kongelige selskab for Norges vel i Aaret 1860.—BY THE SAME.

Om od og eg, Metal og steen som Amulet. Af C. A. Holmboe.—BY THE AUTHOR.

Nyt Magazin for Naturvidenskaberne. 11te Binds 3die and 4de Hefte.—BY THE CHRISTIANIA UNIVERSITY.

Det Kongelige Norske Frederiks Universitets. Aarsberetning for 1859.—BY THE SAME.

Om Nordmændenes Landhusholdning i Oldtiden. Af Fr. Chr. Schübeler.—BY THE SAME.

Oversigt af Norges Echinodermer ved Dr. Michael Sars.—BY THE SAME.

Karlamagnus Saga Ok Kappa Hans. Udgivet Af C. R. Unger, Part 2.—BY THE SAME.

Forhandlinger i Videnskabs—Selskabet i Christiania, Aar 1860.—BY THE SAME.

Chronica Regvm Manniæ et Insularvm. The Chronicle of Man and the Sudreys edited from the Manuscript Codex in the British Museum and with Historical notes, By P. A. Munch.—BY THE SAME.

General Beretning for Aaret 1860. Ved Ole Sandberg, Direktör.—BY THE SAME.

Universitets—Program for 1861, Af C. M. Guldberg.—BY THE SAME.

Ditto ditto, Af H. Mohn.—BY THE SAME.

Aarsberetning for 1859.—BY THE SAME.

Statistiske Tabeller for Kongeriget Norge i Aaret 1859.—BY THE SAME.

Om Siphonodentalium Vitreum, Af Dr. Michael Sars.—BY THE SAME.

Meteorologische Beobachtungen. Aufgezeichnet auf Christiania's Observatorium, Erste Lieferung 1837—1841.—BY THE SAME.

Medicinal Beretning for 1858.—BY THE SAME.

Recueil de Lois, Resolutions, Circulaires, &c. concernant le Commerce et la Navigation du Royaume de Norvège, Christiania, 1861.—BY THE SAME.

Index Scholarum in Universitate Regia Fredericiana, Anno 1861, ab Augusto Mense ineunte Habendarum and a XVII. Kalendas Februarias Habendarum.—BY THE SAME.

Proceedings of the Numismatic Society for 1836-37.—BY THE REV. J. LONG.

Essai sur la Statistique Générale de la Belgique, par Ph. Vandermaelen, 2nd Edition, 1841.—BY THE SAME.

Sudhákara सुधाकर a bi-monthly periodical published at Agra from February 1853 to November 1856.—BY THE SAME.

Exchanged.

The Calcutta Review for September, 1861.

The Athenæum for October, November and December, 1861.

The Philosophical Magazine, Nos. 148 and 149 for November and December.

Purchased.

Deutsches Worterbuch, Vol. 3, Part 6.

The Literary Gazette, Nos. 173 and 175 to 181, Vol. 7, New Series.

Ueber die Zusammensetzung der nomina in den indogermanischen sprachen, Von F. Justi, Göttingen, 1861.

Compendium der Vergleichenden Grammatik der Indogermanischen Sprachen, Vol. I. Von August Schleicher.

Joannis Augusti Vullers Lexicon Persico-Latinum Etymologicum, Fasc. 6, Part 3.

Die Marchen des Siddhi-kur, Von B. Julg.

Revue des Deux Mondes for October 15th, November 1st and 15th, December 1st and 15th and January 1st.

Comptes Rendus, Tome LIII. Nos. 13 to 20.

Journal Des Savants for September, October and November last.

The American Journal of Science and Arts, Vol. XIX. No. 96.

Annales des Sciences Naturelles,—Botanique, Tome XIV. No. 5.

Revue et Magasin De Zoologie Nos. 9, 10 and 11 of 1861.

The Annals and Magazine of Natural History, including Zoology, Botany and Geology, Vol. VIII. Nos. 47 and 48.

Conchologia Iconica, By Lovell Reeve, F. L. S., F. G. S., Parts 212, 213, containing Figures and Descriptions of Cyclostoma and Trochus.

Notice Sur Mahomet, Par M. Reinaud.

Collection D'Ouvrages Orientaux—Maçoudi., texte et traduction par C. Barbier De Meynard et Pavet de Courteille, Tome Premier.

Das Leben und Die Lehre des Mohammad, von A. Sprenger. Erster Band.

Morgenlandische Bibliothek—Die Chroniken der Stadt Mekka, von F. Wustefeld, Vierter Band.

Histoire des Musulmans D'Espagne, Par R. Dozy, Vols. 3 and 4.

Haláyudha's Abhidhánaratnamálá; edited with a Sanskrit-English Glossary, By Th. Aufrecht.

Cabool: being a personal narrative of a journey to and residence in that city in 1836, 1837 and 1838, with illustrations. By Lieut.-Col. Sir Alexander Burnes, C. B., &c.

Travels in Kashmir, Ladak, Iskardo, &c. By G. T. Vigne, Esq., F. G. S. Complete in 2 Vols. (map wanting).

The Class Pisces, arranged by the Baron Cuvier, with supplementary additions. By Edward Griffith, F. R. S., &c., London, 1834.

LALGOPAL DUTT.

5th March, 1862.
